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BEFORE THE MARICOPA COUNTY AIR POLLUTION HEARING BOARD

DANIEL E. BLACKSON, Petitioner and **MARICOPA COUNTY AIR QUALITY DEPARTMENT** Respondent	**CASE NO: MCAPHB2016-001-PA** In re: Minor Modification to Hickman's Egg Ranch, Inc. Permit No: 140062 **MARICOPA COUNTY AIR QUALITY DEPT. RESPONSE TO FINAL ORDER** ***(New information indicated in bold italics)***

Pursuant to the Maricopa County Air Quality Hearing Board's ("Board") Final Decision and Order ("Order") dated December 2, 2016, Maricopa County Air Quality Department ("Department") respectfully submits this response to the Board's Order ("Response") to fulfill the Board's request for clarification of the Department's decision to characterize Hickman's Egg Ranch, Inc., Tonopah ("Hickman's") as a minor source of federally regulated air pollutants via Permit No. 140062 ("Permit").

I. ISSUE PRESENTED

The overall issue before the Board is clarification of the Department's decision to characterize Hickman's as a minor source of federally regulated air pollutants. The analysis turns on whether emissions passing through the ventilation fans are non-fugitive, and if so, whether inclusion of these emissions in the major source calculation causes Hickman's to exceed the major source threshold for any federally regulated air pollutant. *See* Order at 9 (reasoning the Department failed to consider what portion of hen house emissions are non-

fugitive, hence bypassing an analysis of the major source threshold under this circumstance). The Department will apportion emissions as part of this clarification.

II. SUMMARY OF RESPONSE

The Department respectfully maintains its current position that it considered all emissions from the entire Hickman's operation and properly concluded Hickman's is a minor source of all federally regulated air pollutants. This conclusion is supported by the federal Clean Air Act, EPA guidance, judicial authority, and department regulations.

In summary, the Department identified pollution-emitting activities, excluded fugitive emissions, and calculated the potential to emit ("PTE"). The Department determined all emissions from the hen houses are fugitive because they do not *reasonably* pass through a *stack, chimney, vent, or other functionally-equivalent opening*. More precisely, a ventilation fan is not a stack, chimney, vent, or functional equivalent thereof; and, assuming *arguendo*, even if a ventilation fan can be considered a stack, chimney, vent, or functional equivalent thereof, the ventilation fans are not a reasonable system for collecting and discharging emissions. The Board's ruling, that emissions "at the end of the henhouse" are fugitive, supports this conclusion. The Department then calculated the remaining non-fugitive emissions, which demonstrated Hickman's did not exceed the major source threshold for any federally regulated air pollutant. Accordingly, the Department processed Hickman's' minor permit revision under the minor source program.

While the Board has demonstrated agility in the issues and attendant analyses, the Department will proceed with a comprehensive analysis to comply with the Board's request for clarification. The analysis will demonstrate the Department acted reasonably, consistently, lawfully, and based upon clearly valid technical judgment.

ANALYSIS

III. THE CLEAN AIR ACT ESTABLISHES THE MAJOR SOURCE ANALYSIS

A "major stationary source" is any stationary source of air pollutants that directly emits, or has the potential to emit, 100 tons per year ("tpy") or more of any regulated air pollutant. *See* Clean Air Act ("CAA") § 302 (j), 42 U.S.C. § 7602 (j) (providing general provisions for sources

of air pollution); CAA § 501, 42 U.S.C. § 7661 (2) (citing CAA § 302 to apply the major source definition to Title V permits); 40 C.F.R. § 51.165 (a)(1)(iv)(A) (providing the same definition for new or modified major sources in nonattainment areas and providing lower major source thresholds for sources in prescribed nonattainment areas); 40 C.F.R. § 70.2 (providing the CAA § 302 major source definition for state operating permit programs); Maricopa County Air Pollution Control Rules and Regulations ("MCAPCR") 100 § 200.60 (c) (2013) (adopting the federal major source definition).

In nonattainment areas, the PTE threshold varies according to the severity of nonattainment. *See* 40 C.F.R. § 51.165 (a)(1)(iv)(A)(1)-(3). In the instant case, the relevant thresholds are: 100 tpy for carbon monoxide ("CO"), nitrogen oxides ("NOx") (due to moderate nonattainment for the 2008 8-hour ozone standard), sulfur oxides ("SOx"), volatile organic compounds ("VOC") (due to moderate nonattainment for the 2008 8-hour ozone standard), and particulate matter ("PM"); and, 70 tpy for particulate matter-10 ("PM_{10}") (due to serious nonattainment). *Id.*; 40 C.F.R. § 70.2 (providing major source definition, which includes PTE thresholds for VOC and NOx in ozone moderate nonattainment areas).

Fugitive emissions are excluded from the major source analysis unless a source belongs to a prescribed category. Fugitive emissions are "those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening." 40 C.F.R. § 51.165 (a)(1)(ix) (providing the fugitive emissions definition for permits in nonattainment areas); 40 C.F.R. § 70.2 (providing the fugitive emissions definition for state operating permit programs); *accord* MCAPCR Rule 100 § 200.54 (2013) (quoting federal definition). The following sources must include fugitive emissions in their major source calculations:

(a) Coal cleaning plants (with thermal dryers);
(b) Kraft pulp mills;
(c) Portland cement plants;
(d) Primary zinc smelters;
(e) Iron and steel mills;
(f) Primary aluminum ore reduction plants;
(g) Primary copper smelters;
(h) Municipal incinerators capable of charging more than 250 tons of refuse per day;

(i) Hydrofluoric, sulfuric, or nitric acid plants;
(j) Petroleum refineries;
(k) Lime plants;
(l) Phosphate rock processing plants;
(m) Coke oven batteries;
(n) Sulfur recovery plants;
(o) Carbon black plants (furnace process);
(p) Primary lead smelters;
(q) Fuel conversion plants;
(r) Sintering plants;
(s) Secondary metal production plants;
(t) Chemical process plants—the term chemical processing plant shall not include ethanol production facilities that produce ethanol by natural fermentation included in NAICS codes 325193 or 312140;
(u) Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input;
(v) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
(w) Taconite ore processing plants;
(x) Glass fiber processing plants;
(y) Charcoal production plants;
(z) Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input, and
(aa) Any other stationary source category which, as of August 7, 1980, is being regulated under section 111 or 112 of the Act.

40 C.F.R. § 51.165 (a)(1)(iv)(C) (providing the list of sources required to include fugitive emissions in major source calculations in nonattainment areas); 40 C.F.R. § 52.21 (b)(iii) (prescribing rules for approval and promulgation of implementation plans and establishing "[t]he fugitive emissions of a stationary source shall not be included in determining for any of the purposes of this section whether it is a major stationary source, unless the source belongs to one of the [prescribed] categories of stationary sources."); 40 C.F.R. § 70.2 (prescribing analogous rules for state operating permit programs and designed to be consistent with Title V); MCAPCR Rule 100 § 200.60 (c) (2013) (adopting the federal definition and establishing "[t]he fugitive emissions of a stationary source shall not be considered in determining whether it is a major stationary source for the purposes of Section 302(j) of the Act, unless the source belongs to [one of the prescribed categories of stationary sources].").

The United States Congress provided its intent for the exclusion of fugitive emissions: to "identify facilities which, due to their size, are financially able to bear the substantial regulatory costs imposed by the [Prevention of Significant Deterioration ("PSD")] provisions and which, as a group, are primarily responsible for emission of the deleterious pollutants that befoul our nation's air." Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans, 45 Fed. Reg. 52691 (final rule August 7, 1980) (codified at 40 C.F.R. §§ 51, 52, 124) (hereinafter "Final Rule for Implementation Plans") (citing "13 ERC at 2003"); *accord* PSD and Nonattainment New Source Review ("NSR"): Reconsideration of Inclusion of Fugitive Emissions, 73 FR 77892 (final rule January 20, 2009) (codified at 40 CFR Parts 51 and 52) (hereinafter "Final Rule for PSD/NSR Fugitive Emissions Reconsideration") (quoting Final Rule for Implementation Plans, 45 FR 52691).

The Department is unaware of final EPA guidance for Confined Animal Feed Operations ("CAFO") providing fugitive emissions or emissions factors for CAFOs. *See* MCAQD's 1st Supplemental Prehearing Disclosure Statement at 6.

IV. HICKMAN'S IS NOT A MAJOR SOURCE OF A FEDERAL AIR POLLUTANT

Accordingly, the major source analysis reduces to three elements: (1) define the source; (2) analyze and exclude fugitive emissions; then, (3) calculate source emissions to determine if the emissions exceed a major source threshold for any federally regulated air pollutant.

The Department performed this analysis, which resulted in the minor source characterization of Hickman's. In summary, element 1 is not contested; Hickman's is a stationary source comprised of several pollution-emitting activities. Regarding element 2, the fugitive status of several pollution sources is not at issue. Therefore, the only outstanding fugitive question is whether emissions from the egg laying operation are fugitive or non-fugitive, which the Department determined were fugitive. Regarding element 3, the Department calculated the non-fugitive emissions from the Hickman's facility, compared the values to the major source threshold levels, and observed the emissions did not exceed any major source limit. Accordingly, the Department concluded Hickman's was not a major source. The Department's Technical Support Document for Hickman's ("TSD") provides the underlying

technical support for the Department's position. *See* Maricopa County Air Quality Department Non-Title V Technical Support Document for Minor Modification to Hickman's Permit #140062, App. ID 410195 (May 16, 2017) (hereinafter "TSD") [AQ760-775]. The Department will address each element of the major source analysis below.

A. Element 1: The Department Defined the Source.

The source characterization of the Hickman's' facility is not in dispute. *See* Order at 12 (finding Hickman's is a stationary source). The sources of pollution are also not in dispute. Hearing Transcript ("Hearing Tr.") at 39:17-21. The Department identified the following pollutant-emitting activities: emergency engines, boilers, and the CAFO operation: wastewater surface treatment ponds (also called impoundment ponds), manure piles (also called barns, located inside the hen houses), and the egg laying operation (also called layer operation, located inside the hen houses). *See* TSD at 1 [AQ760], 6 [AQ765], 11-12 [AQ770-71].

CAFOs are large "agricultural operations where animals are kept and raised in confined situations." EPA Website, Animal Feeding Operations, https://www.epa.gov/npdes/animal-feeding-operations-afos. Hickman's' CAFO process consists of fourteen hen houses. *See* TSD (Diagram A) at 3 [AQ762]. The hen houses range from 84 to 92 feet wide (north-south), 650 to 680 feet long (east-west), and approximately 40 feet high. *See* Letter from Hickman's to the Department (3/21/17) (hereinafter "Hickman's Letter (3/21/17)") at #5 [AQ751-52]; Letter from Hickman's to the Department re: Request for Additional Information (5/15/17) (hereinafter "Hickman's Letter (5/15/17)") [AQ759]. The hen houses consist of a roof, three enclosed sides, and one open side (the eastern-most side). *See* TSD (Figs. 4-6) at 5, 7 [AQ764, 766]; Hickman's Letter (3/21/17) at #5 [AQ751-52].

An internal wall divides the hen houses into two sections: east and west. *See* TSD at 6 [AQ765]. The west section contains the chickens and therefore the egg laying operation. *Id.* The egg laying operation generates VOC and PM_{10} emissions and are therefore the emissions at issue here ("egg laying emissions"). *See id.* The east section contains the manure piles. *See id.*; Hickman's Letter (3/21/17) at #5 [AQ751-52]. According to Hickman's, the size of the opening

makes the face velocity – which is "a measure of the speed at which air flows through the doorway" – very low and highly variable. *See* Hickman's Letter (3/21/17) at #4 [AQ750].

The internal wall contains approximately 38-50 thermostatically controlled ventilation fans that induce airflow from west to east at a rate of 30,000 cubic feet per minute ("CFM") per fan. *See id.* at #2 [AQ749]; Hickman's Letter (5/15/17) [AQ759]; TSD (Fig. 6) at 6 [AQ766]. Hickman's designed the ventilation fans to provide air circulation for animal comfort, manure drying, and pest management. *See* Hickman's Letter (3/21/17) at #2 [AQ749]; TSD at 6 [AQ765]. Any emissions in the east section that derive from the west section (the egg laying operation) do so via gaps inherent in the ventilation fan design.

B. Element 2: The Department Assessed *All* Activities for Fugitive Emissions.

Since CAFOs do not belong to any prescribed stationary source category required to include fugitive emissions in their major source equations, fugitive emissions at Hickman's, a CAFO, are excluded from the major source analysis. Notably, Petitioner argues the Department erred by failing to calculate fugitive hen house emissions. *See* Hearing Tr. 18:2-5 ("*even if the emissions from the hen houses are fugitive*, they should have at least been calculated *to determine whether* this is a major source or major stationary source.") (emphasis added). The law quickly disposes of this assertion. *See* Section III, *supra* (discussing the exclusion of fugitive emissions from CAFO major source calculations because CAFOs are not expressly prescribed). Therefore, the second step in the major source analysis is to determine what emissions, if any, are fugitive, then exclude them from the analysis.

Accordingly, the Department considered the fugitive nature of emissions from the entire Hickman's operation and apportioned the emissions as fugitive or non-fugitive: emergency engines (non-fugitive), *see* TSD at 6 [AQ765]; boilers (non-fugitive), *see id.*; and, the CAFO operation: treatment ponds (fugitive), *see id.*, *accord* Order at 9, 10; manure piles (fugitive), *see* TSD at 6 [AQ765], *accord* Order at 9; and, the egg laying operation (fugitive), *see* Section IV.C, *infra*. The Board further ruled emissions from the "end of the hen house" are fugitive. *See* Order at 9-10 (ruling "emissions from the end of the hen house are fugitive because it is not

reasonable to capture them and duct them."). Accordingly, the Department will only address the fugitive analysis for the egg laying operation.

C. Emissions from the Egg laying Operation are Fugitive (Element 2, cont.).

To reiterate, fugitive emissions are "those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening." Therefore, to establish emissions as fugitive, one must show: 1) the structure at issue is not a stack, chimney, vent, or functional equivalent; and, 2) even if the structure is a stack, chimney, vent, or functional equivalent, the emissions cannot *reasonably* pass through the same. The Department performed this analysis and concluded emissions from Hickman's' egg laying operation were fugitive because: 1) the ventilation fans at Hickman's are not stacks, chimneys, vents, or functional equivalents; and, 2) even if the ventilation fans were a regulated structure or functional equivalent, the emissions from the egg laying process cannot *reasonably* pass through the ventilation fans. The Department will address each in turn, followed by a discussion of the Board's holding that emissions at the end of the hen house are fugitive.

1. <u>The ventilation fans are not "vents" or functional equivalents.</u>

The ventilation fans at Hickman's are not vents. Vents are openings that exhaust emissions to the ambient air or to a pollution control device. In contrast, the ventilation fans at Hickman's induce airflow. The ventilation fans do not discharge to the ambient air or to a pollution control device. Rather, they discharge internally, inside the hen houses. *See* Hickman's Letter (3/21/17) at #3 [AQ749]; TSD (Fig. 6) at 7 [AQ766].

Since the ventilation fans at Hickman's are excluded because they are not vents, the only way to read them into the fugitive definition is as "functional equivalents" of vents, which they are not. Functionally, vents are designed to control and/or capture air pollution, and are capable of use with air pollution control equipment. *Accord* Hickman's Letter (3/21/17) at #4 [AQ750]. In contrast, the ventilation fans at Hickman's are designed to manipulate air by induction for hen comfort (ventilation and cooling), manure drying, and pest control. *See* TSD at 6 [AQ765]; Hickman's Letter (3/21/17) at #2 [AQ749]. Furthermore, the airflow from the ventilation fans is

too high and too variable to capture and control emissions. *See* Hickman's Letter (5/15/17) [AQ759] (providing a maximum fan airflow rate of 30,000 CFM). The inability of the ventilation fans to capture and control emissions also establishes the unreasonableness of pass through, as discussed in Section IV.C.2.ii.d, *infra*.

Long-standing Arizona case law supports the Department's position in two regards. First, the Arizona Supreme Court has long held: "[i]t is a well-accepted rule of statutory interpretation that a 'statute which enumerates the subjects or things upon which it is to operate will be construed as excluding from its effect all those not especially mentioned.'" *King v. Coulter*, 113 Ariz. 245, 247 (1976) (quoting *Elfbrandt v. Russell*, 97 Ariz. 140, 397 P.2d 944 (1964), reversed on other grounds, 384 U.S. 11 (1966)). For instance, this concept prohibits one from interpreting or reading in CAFOs to the Section 52.21(b)(iii) enumerated list of stationary sources that must consider fugitive emissions in their major source analyses. Here, while the fugitive emissions definition expressly lists stacks, chimneys, and vents, it does not expressly list ventilation fans, or any type of fan. Ventilation fans are therefore excluded. Accordingly, any egg laying emissions that might actually succeed in travelling to the east section via gaps inherent in the ventilation fan design are fugitive. *Accord Alabama Power Co. v. Costle*, 636 F.2d 323, 368 (D.C. Cir. 1979) (defining fugitive emissions as "emissions from a facility that escape other than from a point source.").

Second, Arizona courts have long held a "resort to the definition of terms in interpreting statutory enactments is often beneficial." *State ex rel. Lassen v. Harpham*, 2 Ariz. App. 478, 488 (App. 1966); *accord Marlar v. State*, 136 Ariz. 404, 410 (App. 1983) (holding "[t]he same principles of construction that apply to statutes apply to rules and regulations promulgated by an administrative body."). It is certainly beneficial here in interpreting the fugitive emissions definition, as the definitions for vent, fan, and ventilation establish ventilation fans are not vents. *See* Merriam-Webster Online Dictionary, www.merriam-webster.com (providing definitions for "vent," "fan," and "ventilation.").

The analysis ends here; emissions from the egg laying operation are fugitive because ventilation fans are not stacks, chimneys, vents, or equivalents thereof. *Accord id.* Nonetheless,

the Department performed the rest of the analysis to demonstrate the definite fugitive nature of the egg laying emissions.

2. Even if ventilation fans are vents, the egg laying emissions are fugitive because they cannot *reasonably* pass through the same.

Assuming, *arguendo*, ventilation fans are vents or functional equivalents, egg laying emissions are still fugitive because they cannot *reasonably* pass through the ventilation fans. In arriving at this conclusion, the Department analyzed federal case law, agency determinations, and EPA guidance, which instruct the *physical ability* of an emission to pass through a stack, chimney, or vent *does not* make an emission non-fugitive. Rather, the pass through must be *reasonable*. The Department will provide a summary of the pertinent authority followed by an analysis of the same, as applied to Hickman's.

i. Relevant authority teaches the proper pass through analysis.

United States v. Nucor is the controlling federal law on point, which is instructive in questions implicating federal permits. 17 F. Supp. 2d 1249, 1250 (N.D. Ala. 1998) (vacated on other grounds). As an issue of first impression, the *Nucor* court expressly rejected EPA Region 4's interpretation characterizing all emissions as non-fugitive solely because they were *physically capable* of passing through a stack. *Id.* In rejecting EPA Region 4's argument, the court reasoned "[i]f all [EPA Region 4] had to prove is that gasses in a gaseous state can pass through a hole, [EPA Region 4] should perhaps prevail." *Id.* In finding the interpretation overbroad, the court reasoned, "[it] cannot imagine *any* emission in a gaseous state which could *not* pass through such an opening." *Id.* (emphasis added). Notably, the court appreciated the lack of guidance on point and observed: "the situation seems to cry out for more definitive regulations and/or guidance interpretation." *Id.*

Six years later, the Indiana Office of Environmental Adjudication ("OEA"), a panel of environmental law judges created to review decisions of the Indiana Department of Environmental Management ("IDEM") agency, heard a similar issue in EPA Region 5 and arrived at the same conclusion as the federal court in *Nucor*. *See* In the Matter of: Objection to the Issuance of Part 70 Operating Permit No. T-137-6928-00011 for Joseph E. Seagram & Sons, Inc. ("Seagram, Inc."), Ripley County, IN, Indiana OEA (hereinafter "*Seagram*"). The *Seagram*

case arose out of a dispute between IDEM and Seagram, Inc. regarding whether ethanol emissions from the whiskey aging process, which passed through "ventilation vents" in warehouses, were fugitive.

Seagram, Inc. owned a whiskey manufacturing operation consisting of ten whiskey warehouses used to house whiskey aging barrels. *See* Letter from EPA Region 5 to IDEM (April 16, 1996) (hereinafter "EPA5-IDEM Letter"); *Seagram* at 1. Each warehouse contained 288 screen-covered ventilation openings ("ventilation screens"), 17 x 48 inches, along the bottoms of the warehouse walls. *See* EPA5-IDEM Letter at 1; *Seagram* at 1. The ethanol emissions passed through the ventilation screens directly into the ambient air. *See* EPA5-IDEM Letter at 1.

IDEM requested an opinion from EPA Region 5 regarding the fugitive nature of the ethanol emissions. In response, EPA Region 5 concluded the ventilation screens were "other functionally-equivalent openings," which rendered the emissions non-fugitive. *Id.* EPA Region 5 did not include an analysis in support of this conclusion. *See*, *id*. It did however state "carefully reviewed the facts of [the] case and relevant regulations and guidance, and [confirmed] that [its] position on this issue [was] correct." *Id.* IDEM subsequently adopted EPA Region 5's analysis and characterized the emissions passing through the ventilation screens as non-fugitive. *Seagram* at 6.

Seagram, Inc. disagreed with IDEM's characterization and filed an appeal challenging it. The matter came before the OEA by way of summary judgment motion and cross motion for summary judgment filed by the agency and Seagram, Inc., respectively. The only issue before the OEA was the fugitive nature of the ethanol emissions, which turned on "whether the emissions from [Seagram, Inc.] [could] be reasonably collected as they [passed] through the openings in the warehouses." *Id.*

In *Seagram*, the agency (IDEM) argued before the OEA: "the openings in the warehouses are functionally equivalent openings and the fact that the emissions pass through these openings means that these emissions are fugitive [sic]." *Id.* (note: the case says "fugitive" which appears to be an error when taken in context with the analysis. It should say "non-

fugitive."). In rejecting the agency's argument, the court adopted *Nucor*'s reasoning, finding "[i]f all the plaintiff had to prove is that gasses in a gaseous state can pass through a hole, the plaintiff should perhaps prevail…" *Id.* at 5 (internal quotation omitted). It further reasoned, "'[it] [could not] imagine any emission in a gaseous state which could not pass through such an opening." *Id.* Noting the agency's opinion appeared to derive from the EPA's position in the EPA5-IDEM Letter, the court observed, "[i]t is not clear from the [EPA5-IDEM Letter] what analysis Region [5] undertook to determine whether these emissions were non-fugitive. Neither IDEM nor Region [5] has presented the supporting evidence for this conclusion." *Id.* at 6. Attempts to obtain the supporting documentation were unsuccessful. *Id.*

While not binding, *Seagram* found *Nucor* persuasive, and applied *Nucor*'s reasoning to its holding. *Id.* at 5. The OEA found the agency's interpretation of the fugitive definition inconsistent with both federal regulations and EPA national policy. As a result, the OEA rejected the agency's argument construing the word "reasonably" so broad as to conclude "the mere fact that the emissions pass through the opening is enough to determine that the emissions are not fugitive." *Id.* at 4. The OEA reasoned, "if this were true, then the word 'reasonably' has no meaning … [w]e presume that the legislature did not enact a useless provision." *Id.* (internal quotations omitted).

Nucor and *Seagram* are on point with EPA guidance. In 1980, the EPA amended its regulations to comply with a U.S. Court of Appeals decision from a lawsuit against the EPA. *See* Final Rule for Implementation Plans, 45 Fed. Reg. 52676 (discussing amendments). In pertinent part, the EPA determined: "[i]nstead of defining fugitive emissions as 'those emission [sic] which *do not* pass through a stack, chimney, vent, or other functionally equivalent opening,' EPA believes that the term should apply to 'those emissions which *could not reasonably pass* through a stack, chimney, vent or other functionally equivalent opening.'" *Id.* at 52692-93 (emphasis added). EPA reasoned: "[t]his change will ensure that sources will not discharge as fugitive emissions those emissions which would *ordinarily* be collected and discharged through stacks or other functionally equivalent openings..." *Id.* at 52693 (emphasis added).

In 1999, the EPA continued with this line of reasoning through the development of several factors, also known as the Curran Factors. The Curran Factors are factors each EPA Region must apply when assessing the fugitive nature of emissions at Title V sources that do not actually collect emissions. *See* Memorandum from Thomas C. Curran to Judith M. Katz re: Interpretation of the Definition of Fugitive Emissions in Parts 70 and 71 (February 10, 1999) (hereinafter "Curran Memo") [AQ744-48]. The Curran Factors are as follows:

> At a facility where emissions are not actually collected, this inquiry should include an analysis of (1) the reasonableness of collection, including, but not limited to, cost considerations; (2) whether similar facilities "are subject to national standards and State implementation plan (SIP) requirements (e.g., reasonably achievable control technology, best available control technology, or lowest achievable emission rate) requiring collection, and (3) whether similar sources actually collect emissions.

Curran Memo at 2-4 [AQ745-47]; *accord Seagram* at 5 (citing Curran Factors). Further, in 2008, the EPA published "guiding principles" for determining the fugitive nature of emissions:

> 1. Determining which emissions could "reasonably pass" is a case-by-case decision based on whether or not the emissions can be reasonably collected or captured.
> 2. Because another similar facility collects, captures, or controls emissions does not mean that it is reasonable for others to do the same, but it is a factor in each consideration. (a) If a source already collects or captures and discharges the emissions through a stack, chimney, vent or other functionally equivalent opening, then such emissions are non-fugitive at that source. (b) If we establish a national emissions standard or regulation that requires some sources in the source category to collect or capture and control such emissions, then this weighs heavily towards a finding that the emissions are non-fugitive at other sources in this category; and (c) The more common collection or capture of such emissions is by other similar sources, the more heavily this

factor should weigh toward a finding that collection is reasonable.

3. The cost to collect or capture and control emissions is a factor when considering what is "reasonable." (a) The combined costs to collect or capture and control emissions can be used as an alternative measure for the costs of emissions capture or collection alone in the case-by-case analysis; (b) The surrounding air quality (e.g., nonattainment areas) is a consideration when deciding if costs (collection, capture, control) are reasonable, and (c) If it is not technically or economically feasible to control the emissions, then collection or capture of such emissions may not be reasonable.

Final Rule for PSD/NSR Fugitive Emissions Reconsideration, 73 FR 77891. The EPA instructed agencies to perform this analysis on a case-by-case basis and granted broad authority for the same. *Id.* ("[i]n these circumstances, we make case-by-case determinations as to whether a source could reasonably collect or capture such emissions….These guiding principles recognize that our existing guidance…does not attempt to establish a specific methodology states must use in conducting the case-by-case analysis."); *accord* EPA NSR Manual at C.47 ("an applicant should consult with the permitting agency to determine the proper procedures for characterizing and modeling fugitive emissions.").

ii. <u>The Department applied the foregoing law and determined the egg laying emissions were incapable of *reasonable* pass through to the ventilation fans.</u>

In the instant case, a survey of the foregoing judicial, agency, and EPA authority establishes the flaw of Petitioner's position, that the physical ability to pass through a vent makes an emission non-fugitive. *See, e.g.*, Hearing Tr. 33:2-5 (Petitioner testifying "since NSR pollutants pass through a vent into the ambient atmosphere, that causes those emissions to be non-fugitive…"). As shown, the relevant authorities expressly rejected this line of reasoning. *Nucor* stated, the court "[could not] imagine *any* emission in a gaseous state which could *not* pass through such an opening." *Nucor*, 17 F. Supp. at 1250. *Seagram* stated, "[t]his Court agrees with the District Court's statement in [*Nucor*], "[t]he court cannot imagine any emission in a gaseous state which could not pass through such an opening." *Seagram* at 5. The EPA

stated, "[i]nstead of defining fugitive emissions as 'those emission [sic] which *do not* pass through a stack, chimney, vent, or other functionally equivalent opening,' EPA believes that the term should apply to 'those emissions which *could not reasonably pass* through a stack, chimney, vent or other functionally equivalent opening.'" Final Rule for Implementation Plans, 45 Fed. Reg. 52692-93 (emphasis added). Indeed, as of 1980, it is reasonableness that determines whether emissions are fugitive or non-fugitive. *See*, *e.g.*, *Seagram* at 5 ("[i]f one examines the documents submitted and cited by the parties, it is clear that the U.S. EPA contemplates that whether the emissions can be reasonably collected is the main consideration in the analysis.").

Accordingly, a synthesis of the foregoing authorities establishes the following factors for determining the reasonableness of collection and capture:

1. Cost of capture and control;
2. The existence of national requirements for similar facilities;
3. Whether similar sources actually or ordinarily collect emissions (although not dispositive on its own); and,
4. Whether the subject source actually collects emissions.

The Department analyzed these factors and concluded every one established the unreasonableness of collection and capture of egg laying emissions at Hickman's. *See* TSD at 7-10 [AQ766-69]. Accordingly, the Department determined the reasonableness requirement was not met, which established that the egg laying emissions are indeed fugitive. *See* TSD at 10 [AQ769]. The Department will address each factor in detail.

a. *The cost to collect egg laying emissions is infeasible.*

The Department concluded the cost of collection at Hickman's established the unreasonableness of capture and control. Collection is unreasonable and nonsensical if there is no economically feasible means to control the emissions. *See*, *e.g.*, Final Rule for PSD/NSR Fugitive Emissions Reconsideration, 73 FR 77892 (considering economic feasibility of control in determining the reasonableness of capture or control); *Seagram* at 2 (noting "[t]he cost problems discussed above and the failure of the full-scale test show that control of emissions from whiskey warehousing has not been demonstrated at this time.").

Here, for the following reasons, the Department determined the cost to capture and control emissions from the egg laying operation was economically infeasible. *See* TSD at 8-9 [AQ767-68]. Hickman's does not currently capture and control emissions from the egg laying operation. *See* Hickman's Letter (3/21/17) at #5 [AQ751-52]. The cost to develop a capture and control system for particulate emissions is estimated at $13 million *per* hen house for a total of $182 million for all hen houses. *See id.* (providing detail for projected requirements to develop a capture and control system for particulate emissions). A similar analysis for VOC emissions estimates equipment costs upwards of $12.66 million annually. *See* TSD at 9 [AQ768]. Such expenses are economically infeasible as compared to the volume of air requiring treatment at in *Seagram*. *See id.* at 9 [AQ769] (discussing the reasonableness standard has not been met given the exponentially higher volumes of air that must be treated at Hickman's as compared to the warehouses in *Seagram*).

The Department's position promotes the congressional intent behind the fugitive emissions definition. The United States Congress intended to exclude fugitive emissions from all facilities except the ones who could bear the substantial regulatory costs, who were "primarily responsible for emission of the deleterious pollutants that befoul our nation's air." Final Rule for Implementation Plans, 45 Fed. Reg. 52691. Congress' omission of CAFOs from the list is instructive because it establishes CAFOs are not "primarily responsible for emission of the deleterious pollutants that befoul our nation's air." Accordingly, Hickman's, as a CAFO, should not bear the associated substantial regulatory costs. To require Hickman's to spend upwards of $200 million to establish a collection and control system for egg laying emissions would run afoul of United States congressional intent.

b. *Similar facilities are not subject to national standards.*

This factor supports a finding of unreasonableness because similar facilities are not subject to national standards and SIP requirements requiring collection (e.g. RACT, BACT, LAER). *See Seagram* at 6-7 (finding emissions as fugitive where the EPA had not identified any reasonably available control technology ("RACT") for the emissions). CAFOs are "truly similar" sources, which are not subject to national standards or SIP requirements. *See* Curran

Memo at 3 [AQ746] (requiring that agencies only look at "truly similar" sources); *id.* at 4 [AQ747] (stating "[T]itle V does not impose any requirements on subject sources to collect (or control) their emissions and that collection is only assumed for the purpose of determining [T]itle V applicability."). The Department went a step further and searched the EPA RACT/BACT/LAER clearinghouse for similar emissions, which returned no results. *See* TSD at 7 [AQ766] (stating the Department performed a search for "henhouse," "hen," and "egg," which returned no results).

Still, one might argue, as Petitioner did, that the Department should have followed regulations and/or emissions factors applied locally in other jurisdictions. For example, Petitioner's technical expert testified that the Department committed a "fatal flaw" in failing to consider and adopt California regulations. *See* Hearing Tr. 49:11-51:15 (arguing the Department should have looked to California for guidance). Although benchmarking is indeed an instructive exercise, Petitioner's expert exceeded her expertise when she provided this legal opinion. The error of this overstep is highlighted by the fact that both the EPA and the United States federal court have expressly rejected this line of reasoning. The EPA expressly stated: "[b]ecause another similar facility collects, captures, or controls emissions does not mean that it is reasonable for others to do the same…" Final Rule for PSD/NSR Fugitive Emissions Reconsideration, 73 FR 77891. The federal court in *Nucor* similarly limited consideration of actions of other sources out of an apparent concern for adopting practices that may not actually reflect the current situation. The court held, when no actual legal standard exists, isolated installations in place in one location, which may or may not substantially capture emissions, is not dispositive and "does not substantially establish as a question of fact, law or mixed question of fact and law that the emissions here are non-fugitive." *Nucor*, 17 F. Supp. at 1250.

The Department followed the reasoning of the EPA and the federal court. While a CAFO in another jurisdiction may have adopted local SIP provisions, regulations, or emissions factors for CAFOs, the Department is *not legally required* to follow suit. Indeed, when emissions are not actually collected at a source, such as Hickman's, each jurisdiction must perform its own *case-by-case* determination based on the specific facts before it. Accordingly,

this factor supports a finding of unreasonableness, and therefore a finding that the egg laying emissions are fugitive. *See* TSD at 7 [AQ766].

c. *Similar sources do not collect similar emissions.*

The Department considered similar emissions at similar sources as well as similar emissions at dissimilar sources, and found no evidence supporting reasonableness.

Evidence that emissions are not collected at similar facilities is evidence that collection is unreasonable and the emissions are therefore fugitive. *See Seagram* at 6-7 (finding emissions as fugitive where evidence showed such emissions were not collected at other similar facilities). The Department is unaware of any other CAFOs that actually, commonly, or ordinarily capture and/or control emissions from egg laying operations. *See* TSD at 8 [AQ767]. Out of due diligence, the Department asked Hickman's whether it was aware of other operations "truly similar" to its own that collected similar emissions, to which it responded, no: "[Hickman's] is not aware of any other layer operation at which the emissions are actually captured or controlled." *See* Hickman's Letter (3/21/17) at #6 [AQ752]. Indeed, the fans at many CAFO facilities are external to the building walls and discharge pollution directly to the ambient air. *See id.*; TSD at 8 [AQ767]. The Department concluded this factor established the unreasonableness of capture and control.

Seagram was instructive in the Department's analysis of similar activities at a *different* source category. Although *Seagram* involved a whiskey manufacturing operation, the court's fugitive analysis of emissions passing through small ventilation screens is similar to the Department's fugitive analysis of emissions passing through the small gaps inherent in the design of the ventilation fans at Hickman's. *See* TSD at 6-11 [AQ765-70]; s*ee also* Section IV.C.2.i, *supra*. In *Seagram*, the court found emissions from the ventilation screens were fugitive because the ventilation screens were not functionally equivalent to vents or any other expressly listed structure as it was unreasonable to collect and control those emissions. *Seagram* at 1. In finding the emissions were fugitive, the court reasoned, just because a gas can pass through a hole does not mean it is non-fugitive. *Id.* at 5. It further opined, "if this were true, then

the word 'reasonably' has no meaning … [w]e presume that the legislature did not enact a useless provision." *Id.* at 4 (internal quotations omitted).

Here, due to the similarities between the *Seagram* facility and Hickman's, it would also be unreasonable for Hickman's to capture and control any emissions that may succeed in traveling through small holes or gaps inherent in the ventilation fan design. To define these emissions as non-fugitive simply because some might succeed in physically passing through the ventilation fans would render the word "reasonable" in the definition of no effect. *Accord Seagram* at 4. *Seagram* is especially instructive because it invalidates Petitioner's argument that the *physical ability* of an emission to pass through a hole in a ventilation fan makes the emission non-fugitive. *See* Hearing Tr. 33:2-5.

Additionally, for the same reasons discussed in the previous section, a local one-off application of capture and control in Indiana, California, or any other jurisdiction does not bind Maricopa County. This is especially true in light of the lack of "clear cut standards" regarding EPA's promised guidance regarding the fugitive characterization of CAFO emissions and emissions factors. By way of example, applying Petitioner's reasoning would penalize a CAFO in another jurisdiction for failing to take a voluntary measure that Hickman's has instituted, such as enclosing the egg laying operation, using state-of-the-art feed mixture to reduce emissions, or drying out manure (and enclosing the process), all of which exceed Hickman's legal duty. Indeed, the fugitive analysis is a case-by-case analysis to be performed by the agency. *See* Curran Memo at 2 [AQ745]; *accord* EPA NSR Manual at C.47 ("[a]n applicant should consult with the permitting agency to determine the proper procedures for characterizing and modeling fugitive emissions.").

d. *Hickman's does not collect/capture egg laying emissions.*

For the following reasons, the Department concluded this factor established the unreasonableness of capture and control. Contrary to Petitioner, the EPA teaches when a source does not actually collect or capture emissions, the agency has broad discretion and should make a case-by-case determination regarding whether the source could reasonably collect or capture

such emissions. Final Rule for PSD/NSR Fugitive Emissions Reconsideration, 73 FR 77891 ("[i]n these circumstances, we make case-by-case determinations as to whether a source could reasonably collect or capture such emissions."); *cf.*, *e.g.*, Hearing Tr. at 49:11-51:15 (testifying (at length) that the agency erred because it did not adopt the practices of other jurisdictions).

In the instant case, and within the bounds of its broadly granted discretion, the Department performed this case-by-case determination at Hickman's. The Department based its analysis on the federal Clean Air Act, EPA guidance, judicial authority, and department regulations. Perhaps most important is the fact the ventilation fans are *not required* by law; Hickman's installed the fans out of simple care and concern for the well-being and comfort of its chickens. Furthermore, Hickman's has not yet even ascertained whether a capture and control configuration can be safely achieved. *See* Hickman's Letter (3/21/17) at #5 [AQ751].

The fact that Hickman's does not actually collect or capture emissions from the egg laying operation also supports the Department's finding of unreasonableness. *See* TSD at 7 [AQ766]. Indeed, the ventilation fans are not "air pollution control equipment." *See* MCAPCR 100 § 200.11 (2013) (air pollution control equipment is equipment "used to eliminate, reduce, or control the emission of air pollutants into the ambient air."). By design, ventilation fans are physically incapable of controlling emissions. *Accord* Final Rule for PSD/NSR Fugitive Emissions Reconsideration, 73 FR 77892 (finding collection will be deemed unreasonable and nonsensical if there is no technically feasible means to control the emissions). In contrast, the ventilation fans are merely capable of circulating air. Indeed, the maximum airflow rate of 30,000 CFM per fan makes it impossible to capture or control emissions because the airflow is too strong and too variable to serve a control purpose.

3. <u>The Board's holding, that emissions at the "end of the hen house" are fugitive, supports the Department's conclusion that egg laying emissions are fugitive.</u>

In its Final Order, the Board held: "*emissions* from the end of the hen house are fugitive because it is not reasonable to capture them and duct them." Order at 9 (emphasis added). This holding effectively establishes the fugitive nature of *all* emissions from the egg laying

operation. A dissection of "emissions" at the "end of the henhouse" is necessary to fully appreciate this holding.

The "end of the hen house" refers to the open side in the east section of the hen house. *See, e.g.*, TSD (Fig. 6) at 7 [AQ766]. The only emission points upstream of the "end of the hen house" are the manure piles and egg laying operation. *See id.* Based on this layout, any hen house emissions present at "the end of the hen house" originate from either the manure piles or the egg laying operation.

Applying these facts to the Board's holding, the fugitive nature of egg laying emissions is evident: "[emissions from the manure piles and egg laying operation] are fugitive because it is not reasonable to capture and duct them." This is an important distinction, and one Petitioner miscalculated when he, through his expert, testified: "those are not fugitive emissions coming out of the fans; those are non-fugitive emissions and should be treated as such." Hearing Tr. 55:18-20. As demonstrated, an application of the Board's holding to the facts reveals the incongruity in characterizing *any* emissions arriving via the ventilation fans as *non*-fugitive.

The Board's holding and the Department's attendant analysis are supported by law. Pertinently, the Department regulates "air pollution." Air pollution is "[t]he presence in the *outdoor* atmosphere of one or more [regulated] air contaminants…." MCAPCR 100 § 200.10 (2013) (emphasis added). Outdoor atmosphere or "ambient air" is "[t]hat portion of the atmosphere, *external to buildings*, to which the general public has access." *Id.* at 200.13 (emphasis added). Applying the law to the instant case, emissions *inside* the hen houses are *not* "air pollution" and therefore are not regulated. Therefore, it is improper to characterize egg laying emissions *inside* the hen houses as non-fugitive, as Petitioner does. *See, e.g.*, Hearing Tr. 55:14-19, 59:10-14 (Petitioner characterizing emissions starting at the ventilation fans, which reside inside the hen houses, as non-fugitive).

It should also be noted that the ventilation fans do not discharge pollution directly to the outdoor or ambient atmosphere, as Petitioner's expert testified. *See, e.g.*, Hearing Tr. 54:17-19 ("the ventilation fans inside the barn are blowing the air pollution from inside the barn out of the barn…"). This oversight is perhaps a result of the fact that Petitioner's expert observed the

process from the street. Hearing Tr. 38:4-5, 39:21-23 (testifying she "[went] around it twice" and "had to identify… from the street…" and further admitting "if…we had a site inspection, we might find something else…"). To the contrary, a proper inspection reveals "[t]he fans are internal to the buildings; they do not discharge any emissions to the outdoor atmosphere." Hickman's Letter (3/21/17) at #3 [AQ749]; *see also id.* at #1 [AQ749] (stating the "east-facing open end of each hen house" is the only mechanism by which emissions are discharged to the atmosphere). Therefore, any emissions that might actually succeed in traveling through the ventilation fans land *inside* the building, and are therefore unregulated. Under the Board's reasoning, any egg laying emissions present on the east side by way of the ventilation fans (egg laying emissions) are fugitive.

D. Element 3: The Department Calculated the PTE, Which Showed Hickman's is Not a Major Source of Any Federally Regulated Air Pollutant.

After excluding the fugitive emissions, the Department calculated the PTE for Hickman's and determined it did not exceed the major source threshold for any federally regulated air pollutant. *See* TSD at 12 [AQ771]; *id.* (Appendix A) at 14 [AQ773]. PTE is "[t]he maximum capacity of a stationary source to emit pollutants, excluding secondary emissions, under its physical and operational design." MCAPCR 100 § 200.85 (2013). The emissions calculation consisted of the non-fugitive sources: emergency engines and propane boilers, *see* TSD at 11-12 [AQ770-71], 14-15 [AQ773-74], and accounted for the physical and operational designs of the pollution units. *See* TSD (Appendix A) at 14-15 [AQ773-74]. The Department determined Hickman's did not exceed a major source threshold for any regulated air pollutant. *See id.*; *see also* Section III, *supra* (for annual PTE thresholds for Maricopa County).

IV. CONCLUSION AND RELIEF SOUGHT

In conclusion, the foregoing analysis clarifies the Department's decision to categorize Hickman's as a minor source and therefore process Hickman's' minor permit revision under the Non-Title V permitting program. The Department analyzed the factual, scientific, regulatory, and judicial authorities surrounding the issues presented. The Department acted within its broad discretion in making this case-by-case determination regarding the fugitive nature of

Hickman's' egg laying emissions. Accordingly, as shown, the Department's actions were reasonable, consistent, lawful, and based upon clearly valid technical judgment.

The Department notes the Board's affirmance of the Department's decision to issue the minor permit revision. *See* Order at 9.

Respectfully submitted this 26th day of May, 2017

By: */s/ Robert C. Swan*
Robert C. Swan
Deputy Maricopa County Attorney
Attorney for Respondent

Exhibits

	Document	Bates No.
1.	Seagram EPA5-IDEM Letter (4/16/96)	AQ742-743
2.	Curran Memo (2/10/99)	AQ744-748
3.	Hickman's Letter (3/21/17)	AQ749-758
4.	Hickman's Letter (5/15/17)	AQ759
5.	TSD (5/16/17)	AQ760-775

CERTIFICATE OF SERVICE

I hereby certify that Respondent served or caused to be served an electronic copy of this Response on all parties in accordance with procedures in the Maricopa County Air Quality Hearing Board Manual of Procedures.

Daniel E. Blackson
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Jacqueline Robinson
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/s/ *Robert C. Swan*
Robert C. Swan

Dated: May 26, 2017

April 16, 1996

(AR-18J)

Paul Dubenetzky
Permit Branch
Office of Air Management
Indiana Department of Environmental Management
100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015

Dear Mr. Dubenetzky:

This letter is in response to your questions concerning a Seagram and Sons whiskey storage facility which has ten double warehouses (each with approximately 85,630 square feet in area). This facility solely stores beverages in barrels for aging and does not conduct any filling or emptying of barrels. This source produces ethanol emissions and your office requested a determination of whether these emissions are counted as fugitive emissions or stack emissions for the purposes of Title V applicability.

40 CFR 70.2 defines fugitive emissions as "those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening." According to a Seagram representative, no windows exist at this facility, but ventilation is provided by 17 inch by 48 inch screen-covered vents along the bottom of the warehouse walls. Each warehouse has 288 vents. 64 of the vents are permanently covered and 224 vents have removable covers that are only in place during cold weather months. The facility relies on natural ventilation and does not use fans to force air in and out of the warehouse.

It is the position of the United States Environmental Protection Agency (USEPA), based on the information you provided, that these screens should be considered "other functionally-equivalent openings" under the above-mentioned definition and, therefore, the emissions exiting the storage area would not be classified as fugitive emissions for Title V purposes. IDEM has brought to our attention a letter from another USEPA region that appears to be inconsistent with our position. Region 5 has carefully reviewed the facts of this case and relevant regulations and guidance, and confirms that our position on this issue is correct. Region 5 has also contacted the USEPA Office of Air Quality Planning and Standards on this issue and they concur with our position.

Seagram has expressed concern that a disruption of the natural ventilation occurring at their warehouse would seriously damage the quality of their

product and, therefore, they believe that these emissions could not be reasonably forced through a stack, chimney, vent, or other functionally-equivalent opening. Note that a determination that emissions are from a functionally-equivalent opening does not require a facility to interfere with the natural ventilation process occurring in a warehouse or force air through any opening. Such a determination means only that emissions from these openings are not considered "fugitive" and must be considered in any permitting applicability determination, such as for a Title V operating permit. A determination of Title V applicability does not impose any new requirement on these emissions that does not already exist, therefore, the determination would not in and of itself require the facility to alter its air flow process. Furthermore, the importance of an undisturbed natural ventilation process would be considered in any emission control analysis (such as a best available control technology analysis) to which the source may otherwise be subject.

I hope this information is useful. If you have any questions, please call Sam Portanova, of my staff, at (312) 886-3189.

Sincerely yours,

/s/

Cheryl Newton, Chief
Permits and Grants Section

February 10, 1999

MEMORANDUM

SUBJECT: Interpretation of the Definition of Fugitive Emissions in Parts 70 and 71

FROM: Thomas C. Curran, Director /s/
Information Transfer and Program
Integration Division (MD-12)

TO: Judith M. Katz, Director
Air Protection Division, Region III (3AT00)

This is in response to your memorandum of August 8, 1997 and subsequent discussions regarding the definition of "fugitive emissions." Specifically, you asked how this definition applies to the emissions of volatile organic compounds (VOC) from the printing industry, whiskey warehouses, paint manufacturing facilities, and other similar sources for purposes of title V. The delay in getting back to you was principally due to extensive consultation as needed among the various Headquarters and Regional Offices and has resulted in more technically and legally supportable policy.

When counting emissions to determine if a source exceeds the major source thresholds under title V (parts 70 and 71), nonfugitive VOC emissions are always counted. Fugitive VOC emissions, however, are counted only in certain circumstances. Because of this, the determination of whether emissions are fugitive or nonfugitive can be critically important for major source determinations under title V.

The EPA defines "fugitive emissions" in the regulations promulgated under title V as "those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening" (see title 40 of the Code of Federal Regulations, sections 70.2 and 71.2). This definition is identical to the definition of "fugitive emissions" adopted by EPA in the regulations implementing the new source review (NSR)

program. Given this, the precedents established in the NSR program should be relied on in interpreting the definition of "fugitive emissions" for purposes of title V.

In 1987 and again in 1994, EPA issued guidance regarding the classification of emissions from landfills for NSR applicability purposes.[1] In these guidance memorandums, EPA made clear that emissions which *are actually collected* are not fugitive emissions. Thus, for example, when a source is subject to a national standard requiring collection of emissions, these emissions cannot be considered fugitive. Whether or not a source is subject to such a national standard, emissions which pass through a stack, chimney, vent, or other functionally-equivalent opening are not fugitive.

Where emissions are not actually collected at a particular site, the question of whether the emissions are fugitive or nonfugitive should be based on a factual, case-by-case determination made by the permitting authority. As noted in EPA's 1994 guidance,

> In determining whether emissions could reasonably be collected (or if any emissions source could reasonably pass through a stack, etc.), "reasonableness" should be construed broadly. The existence of collection technology in use by other sources in a source category creates a presumption that collection is reasonable. Furthermore, in certain circumstances, the collection of emissions from a specific pollutant emitting activity can create a presumption that collection is reasonable for a similar pollutant-emitting activity, even if that activity is located within a different source category.

Based on the above principles, EPA believes it appropriate to presume that VOC emissions from the printing industry and paint manufacturers could reasonably be collected and thus are

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[1] See memorandums entitled "Classification of Emissions from Landfills for NSR Applicability Purposes" from John S. Seitz, Office of Air Quality Planning and Standards, to Air Division Directors, Regions I-X, dated October 21, 1994, and "Emissions from Landfills" from Gerald A. Emison, Director, Office of Air Quality Planning and Standards, to David P. Howekamp, Director, Air Management Division, Region IX, dated October 6, 1987.

not fugitive. In addition, unless this presumption is rebutted by the source, such emissions should be counted in major source determinations.

We have reached this conclusion for printers and paint manufacturers because certain printers are subject to national standards and State implementation plan (SIP) requirements (e.g., reasonably achievable control technology, best available control technology, or lowest achievable emissions rate) requiring collection. Moreover, sources in both of these source categories commonly employ collection devices. The common use of collection technology by other printing and paint manufacturing sources creates a presumption that collection of emissions is reasonable at other similar sources.

In the case of whiskey warehouses, the presumption that emissions could reasonably be collected is less compelling and may warrant further consideration by States in consultation with the EPA Regional Offices. For example, we are not aware of any national standards or SIP requirements for the collection of VOC emissions from whiskey warehouses, and we believe it is uncommon for them to have voluntarily installed collection devices. On the other hand, EPA is aware of warehouses in other source categories that collect emissions and thus a presumption is created that whiskey warehouse emissions could reasonably be collected. In addition, in a factual determination for a whiskey warehouse in the State of Indiana, EPA Region V found, after careful review, that the emissions of the warehouse were not fugitive.

In addition, you ask whether costs should be a factor used to determine if emissions can be reasonably collected. Obviously, when emissions are actually collected, cost considerations are irrelevant to determine whether emissions are fugitive. On the other hand, when a source does not actually collect its emissions, but there is a presumption that collection would be reasonable, a permitting authority could consider costs in determining whether this presumption is correct. However, when analyzing whether collection is reasonable for a particular source, the permitting authority should not focus solely on cost factors, nor should cost factors be given any more weight than other factors. Instead, the permitting authority should focus on determining whether a particular source is truly similar to the "similar sources" used to create the presumption. This determination can be made by looking at whether there are substantial differences in the technical or engineering characteristics of the sources. In this stage of the analysis, a comparison of the costs of collecting emissions could be relevant where it illustrates the underlying technical or engineering

differences. Moreover, keep in mind that title V does not impose any requirements on subject sources to collect (or control) their emissions and that collection is only assumed for the purpose of determining title V applicability. Thus, no source will ever be required to incur the costs of installing, operating, or maintaining collection devices (or control devices) because of a presumption that its emissions are not fugitive or subsequently because it is found to be subject to title V.

The approach for interpreting the definition of fugitive emissions outlined in this memorandum is consistent with the approach used historically by Headquarters, as well as the majority of EPA Regions and States. We believe, therefore, that the impact of this memorandum will be limited, both in the number of sources for which reclassification of emissions from fugitive to nonfugitive may be required, and to a greater extent, in the number of sources subject to reclassification from minor to major source.

We recognize that this interpretation may present enforcement issues for an unknown (but presumably small) number of sources whose initial title V applicability determinations were overly broad with respect to which emissions they have interpreted as being fugitive. Therefore, EPA recommends that the following steps be taken. If the policies of an EPA Region or State for interpreting the definition of fugitive emissions are consistent with the policies described in this memorandum, then the EPA Region or State should continue to enforce its policies as it has in the past. However, if the policies of an EPA Region or State have not been as inclusive as the policies described in this memorandum, then major sources that have not applied for operating permits on the basis of these less-inclusive policies should be instructed to immediately notify the State and EPA Region in writing of their obligation to obtain a title V permit. Such sources should be instructed to prepare and submit permit applications to the appropriate permitting authority as expeditiously as possible.

The EPA will use its enforcement discretion in deciding whether or not to seek an enforcement action against sources for failure to obtain an operating permit. However, factors that may be considered in deciding whether to seek enforcement action against sources may include whether the sources relied on less inclusive policies of a State or EPA Region and whether the sources expeditiously submit permit applications after they become aware of the national policy described in this memorandum.

If you have any questions, please contact Steve Hitte at 919-541-0886 or Jeff Herring at 919-541-3195 of the Operating Permits Group.

cc: Director, Office of Ecosystem Protection, Region I
Director, Division of Environmental Planning and Protection, Region II
Director, Air, Pesticides, and Toxics Management Division, Region IV
Director, Air and Radiation Division, Region V
Director, Multimedia Planning and Permitting Division, Region VI
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HICKMAN'S family farms

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March 21, 2017

Mr. Richard Sumner
Maricopa County Air Quality Department
1001 N. Central
Suite 125
Phoenix, AZ 85004

Dear Mr. Sumner,

In response to your request for information of February 23, 2017, please consider the following:

1. Through what mechanism(s) are emissions of regulated air pollutants discharged to atmosphere from the hen houses at the Tonopah Facility?

Primarily, if not exclusively, through the east-facing open end of each hen house.

2. Please describe the configuration and function of the fans at the Tonopah facility that were the subject of testimony?

Each hen house includes two primary sections, the area that houses the hens and the area where manure is collected. The two sections are separated by an internal wall. This wall includes approximately 40-50 thermostatically controlled fans. The fans are internal to the building. The fans serve two functions — they induce air flow in the hen section for purposes of ventilating and cooling the hens and they aid in manure drying and pest management in the manure area.

3. Are emissions from the hen houses at the Tonopah Facility discharged to the atmosphere through the fans?

No. The fans are internal to the buildings; they do not discharge any emissions to the outdoor atmosphere. As noted above, nearly all emissions from the hen houses are discharged to the outdoor atmosphere through the east-facing open end of each hen house. Note: Particulate matter and gaseous substances are not air pollutants under 42 U.S.C. § 7602(g) until/unless they are discharged into "ambient air." Similar language in MCAQD rule 100, Section 200.10 uses the term "outdoor atmosphere" in the definition of "air pollutant." The terms "emission" and "emit" have meaning only in the context of air pollutants. The movement of dust and other air constituents within a building, whether mechanically induced or otherwise, is not regulated under the Clean Air Act or the MCAQD permitting rules.

Ms. Martin erroneously testified that there are non-fugitive emissions "coming out of the fans" (11/7/2016 Tr. 55:14-20) and "coming through the ventilation fans" (11/7/2016 Tr. 59:10-16). The materials passing through the fans are merely passing from one part of the building to

another; they are not air pollutants and are not being emitted. Both Ms. Martin (11/7/2016 Tr. 54:10-21) and Mr. Blackson (11/7/2016 Tr. 32:13-33:1) acknowledged in their testimony that the emissions from the hen houses are discharged to the outdoor atmosphere through the east-facing open end of each hen house.

4. Is each east-facing open end of the buildings a "stack, chimney, vent, or other functionally equivalent opening"?

No. These terms, as used in the air permitting rules, refer to chimneys or similar discharge points which are susceptible to application of air pollution control devices. The open end of the building is entirely incompatible with such application: The face velocity (a measure of the speed at which air flows through the doorway) is very low and is highly variable. Moreover, the open end serves an important function in allowing manure to be loaded into trucks using a wheel loader like the one shown in this picture:

An opening through which a wheel loader is routinely driven is not a chimney or a vent and is not functionally equivalent to those things.

In addition, the legal inquiry into the fugitive/non-fugitive emissions does not end with the determination of whether the emissions could or could not pass through a stack, chimney, vent, or other functionally equivalent opening. As stated by EPA, "we interpret the phrase 'could not reasonably pass' by determining whether such emissions can be **reasonably collected or captured** (e.g. enclosures or hoods). Under this interpretation, it is axiomatic that any emissions actually collected or captured by the source are non-fugitive emissions. The answer is less clear when the source is not currently collecting or capturing the emissions. In these circumstances, we make case-by-case determinations as to whether a source could reasonably collect or capture such emissions." (72 Fed. Reg. 63258, Nov. 13, 2007; 73 Fed. Reg. 77891, Dec. 19, 2008). EPA utilizes the following 3-part analysis to determine whether emissions qualify as fugitive:

> 1. Determining which emissions could "reasonably pass" is a case-by- case decision based on whether or not the emissions can be reasonably collected or captured.
>
> 2. Because another similar facility collects, captures, or controls emissions does not mean that it is reasonable for others to do the same, but it is a factor in each consideration.

(a) If a source already collects or captures and discharges the emissions through a stack, chimney, vent or other functionally equivalent opening, then such emissions are non-fugitive at that source.
(b) If we establish a national emissions standard or regulation that requires some sources in the source category to collect or capture and control such emissions, then this weighs heavily towards a finding that the emissions are non-fugitive at other sources in this category; and
(c) The more common collection or capture of such emissions is by other similar sources the more heavily this factor should weigh toward a finding that collection is reasonable.

3. The cost to collect or capture emissions is a factor when considering what is "reasonable."
(a) The combined costs to collect or capture and control emissions can be used as an alternative measure for the costs of emissions capture or collection alone in the case-by-case analysis;
(b) The surrounding air quality (e.g., nonattainment areas) is a consideration when deciding if costs (collection, capture, control) are reasonable, and,
(c) If it is not technically or economically feasible to control the emissions, then collection or capture of such emissions may not be reasonable.

According to EPA, "these guiding principles recognize that our existing guidance does not establish a non-rebuttable presumption, and does not attempt to establish a specific methodology states must use in conducting the case-by-case analysis. However, the expanded principles explain how states should weigh collection or capture of emissions by other similar sources in that analysis." (72 Fed. Reg. 63259, Nov. 13, 2007; 73 Fed. Reg. 77891, Dec. 19, 2008).

5. What would be required in order to capture and control a substantial portion of the particulate matter emissions from the hen houses at the Tonopah facility?

It has not been determined whether such capture and control could be safely achieved. Assuming for the sake of argument that it is feasible, such a reconfiguration would be a massive and expensive undertaking even in just one hen house. At least in theory, an exhaust hood could be constructed above the conveyor system in the manure end of the building. The end of the building that is approximately 80 feet wide would have to be equipped with doors in order to allow for the hood to collect and capture a substantial fraction of the emissions. Because the doors would restrict air flow across the manure piles, additional fans would be required along the north and south walls in the manure section of the building in order to provide continuous flow of fresh air into the building and across the manure piles. A preliminary analysis of such a system shows the hood system would require exhaust fans sized for an air flow of more than 1.5 million cubic feet per minute; even without an air pollution control device, the fan would require an electric motor of approximately 1500 hp output. A fabric filter baghouse to control emissions of particulate matter, assuming a gas-to-cloth ratio of 9 ft/min, would increase the pressure drop to approximately 10 inches of water and would require an increase in the fan motor size to more than 3000 hp. The baghouse would contain approximately 13,000 fabric filter bags; total cloth area would be more than 170,000 square feet; and the baghouse structure would be

approximately 50 feet wide by 200 feet long and 25 feet high. The total capital cost of such a system, for each building, would be at least $13 million. As stated by the EPA, "we believe that when the only reason to collect or capture such emissions would be to control the emissions, and there is no technical or economically feasible means to control the emissions, then collecting the emissions is nonsensical, and thus, may not be reasonable." (72 Fed. Reg. 63259, Nov. 13, 2007; 73 Fed. Reg. 77892, Dec. 19, 2008). In this case, the collection of such emissions would not be economically feasible.

6. Are emissions from hen houses at other facilities with a similar building configuration typically captured and controlled?

No. We are not aware of any other layer operation at which the emissions are actually captured or controlled. It should be noted that many of those facilities include fans which are on the external walls of buildings, such that the materials passing through the fans are air pollutant emissions. Even in that configuration, however, the emissions passing through the fans are properly considered fugitive emissions. EPA policy provides that susceptibility to collection and control is an important consideration in determining whether emissions are fugitive or not. The capture and control of emissions from a hen house would require a massive and exorbitantly costly project, even for facilities of the older design where air pollutants are discharged to atmosphere through fans.

7. What efforts has Hickman's implemented to control environmental impacts at the Tonopah Facility?

Hickman's Family Farms has implemented extensive voluntary measures to control environmental impacts from its facilities, including the Tonopah facility. As further detailed below; these efforts include paving of access roads, control and movement of manure for quicker drying, pest/vector management, and use of proprietary feed mixtures.

A. Paving of access roads and Day-to-Day Operations for Dust Control:

Hickman's Family Farms implements voluntary dust control measures at the Tonopah facility from each of the following categories:

- Category 1: Arenas, Corrals, & Pens (Housing);
- Category 2: Animal Waste and Feed Hauling and Transporting;
- Category 3: Unpaved Access Connections; and
- Category 4: Unpaved Roads and Feed Lanes.

Category 1:

- Fans, louvers, and soffit inlets are cleaned at Hickman's Family Farms' approximately once every 18 months;
- No bedding is used at Hickman's Family Farms;
- Vegetation is controlled on building exteriors by the Hickman's Family Farms' Pest Control Division;
- Moisture is added through ventilation systems; and
- All animals are housed in fully enclosed ventilated buildings.

Category #2:

- Spilled feed is removed based upon Hickman's Family Farms' written policy;
- All feed is stored in enclosed structures;
- Hickman's Family Farms adds oil and/or moisture to the feed;
- Enclosed feed distribution systems are used;
- Drop distance is minimized;
- Transfer points are enclosed;
- Floors and walls are cleaned as needed by an assigned crew;
- Aisles between cage rows are cleaned on a daily basis by Hickman's Family Farms personnel;
- Manure solids are separated and stacked within the manure drying barns;
- Moisture is maintained in the manure solids; and
- A rotary dryer is utilized to dry the manure waste.

Category #3

- Speed control devices are installed;
- Traffic access is restricted;
- A track out control system is installed and maintained;
- Signage to limit vehicle speed to 15 mph is installed.

Category #4:

- Engine speed governors are installed on feed trucks limiting speed to 15 mph;
- Signage to limit vehicle speed to 15 mph is installed;
- Speed control devices are installed;
- Traffic access is restricted;
- Aggregate cover was applied and is maintained; and
- Water is applied and maintained as a dust control suppressant.

Per Hickman's Family Farms written procedures and policy, speed limits on all facilities and access roads are 10 MPH, to include paved roads. All dirt/aggregate roads are 10 MPH unless dust is being created, then lower speed to adjust for dust control. Speed limits in employee parking lots are 5 MPH, which includes a restriction of spinning tires. Failure to adhere to this policy and procedure may result in a verbal written warning, written reprimand, or termination.

A water truck operator is assigned to apply fresh well water to control emissions before, during, and after dust-generating operations 7 days a week. This includes all contruction activities, paved and unpaved access roads, as well as any additional area of the facilities that have the potentional to generate dust as a result of vehicular traffic.

Front gate guards are assigned to actively monitor trackout throughout the workday. Brooms are availabe in trucks and at the gates for easy access to attend to trackout. If necessary, the water truck operator can be utilized for water application.

All Hickman's Family Farms supervisors/managers are trained to understand the requirements of the dust control plan and relate that to the employees on their team. Training includes the procedure that if any visible dust that may cross property lines or if an activity may allow on-site

emissions to exceed 20% opacity, Hickman's compliance department personnel are notified to assist with an alternative solutions to allow operations to continue.

All Hickman's Family Farms supervisors/managers are trained to implement and enforce the "Dust Free Zone, Adjust Speed Accordingly, 10 MPH is our maximum speed" policy, pertaining to paved roads as well. The policy is strickly enforced and disiplinary will be issued to employees who violate any of the best management practices. The Hickman's Family Farms compliance department patrols the facilities to ensure complinace.

All locations have posted speed signs and fencing to allow only approved vehicle traffic and keep parking in controlled area, restricting access to inactive areas.

Track-out control systems are utilized throughout Hickman's Family Farms facilities. Track-out is immediately cleaned if it extends 25 feet or more (cumulative) in distance. A Track-out control system means a device to remove mud or soil from a vehicle before the vehicle enters a paved public road. Using a track-out control system helps remove mud and soil from the tires of farm equipment and vehicles before they enter a paved public road, where the mud or soil can be crushed into fine particles and easily suspended in the air by passing vehicles.

Pavement, asphalt, concrete, or similar materials are applied to at the intersections of a paved public roadway and all farm entrances.

B. Control and movement of manure for quicker drying

Hickman's Family Farms has implemented the following voluntary practices for manure waste management at the Tonopah facility:

Each barn at the Tonopah facility is equipped with a manure curtain that ensures emissions from the manure are reduced based upon increased drying rates as a result of installation. The manure shed screens also serve to reduce dander from escaping the drying shed while the manure belts are in operation.

Once the manure is deposited via conveyor from each lay house and into the manure drying barns into separated and stacked locations, the manure is removed from the Tonopah facility 5-6 days per week. Each house is completely emptied approximately every 14 days to ensure that there is not an accumulation for flies and pests to create a harborage.

C. Pest/vector management

Hickman's Family Farms has written an Integrated Pest Management (IPM) Plan to control pests and vectors at all facilities. Within the plan, pests and rodents to be control include:

- Cockroaches;
- Ants (other than carpenter ants);
- Winged termite swarmers emerging indoors;
- Incidental/occasional invaders including bees & wasps entering from the outdoors; and
- Flies and other arthropod pests;

- Norway rat;
- Roof rat;
- House mouse;
- Deer mouse; and
- White footed mouse

The Hickman's Family Farms Pest Control Department is supervised by a Certified License Applicator for the purpose of identifying any potential problem areas that may be contributing to pest and rodent infestation within the facility. Included with this responsivity is to make recommendations for corrective measures that should be implemented, and develop and implement a comprehensive IPM Plan.

The Hickman's Family Farms IPM plan utilizes methods of insect and rodent control which includes:

- Structural maintenance and sanitation;
- Monitoring for insect & rodent populations;
- Mechanical and biological control measures; and
- The use of insecticides and pesticides.

These methods help to eliminate food, moisture and harborage for pests and rodents, making their survival more difficult. Insecticides and pesticides are not applied on a routine basis; however, they are used as a tool to maintain pest populations at or below the acceptable level. The selection of insecticides and pesticides that are used will are determined and approved by the Hickman's Family Farms Pest Control Department Supervisor.

The proper implementation of this program reduces the volume, toxicity and frequency of insecticide and pesticide applications, therefore reducing the risk of potential exposure to building occupants who may be sensitive to their use.

The Hickman's Family Farms Pest Control Department has designated technicians that are responsible for the following pest control programs:

- Rodent Control & Preventions;
- Insect Control & Preventions;
- Weed Control & Preventions; and
- Bird Control & Preventions

All pest control technicians have been properly trained in the handling and disposal of insecticides and rodenticides by the Hickman's Family Farms Pest Control Department Supervisor.

The following outlines the locations, procedure, and frequency for pest control management at all Hickman's Family Farms facilities:

Location	**Frequency**	**Procedure**
Rodent Control & Preventions		
Interior Lay House Barns	Bi-Weekly	Monitor and service all interior mechanical

Location	Frequency	Procedure
		trapping mechanisms and bait stations with in the barn. If a rodent is discovered it is removed immediately; and a corrective action will be taken. All corrective actions are noted and logged.
Exterior Lay House Barn	Bi-Weekly	Monitor and service all exterior bait stations. All findings are noted and logged to monitor the rodent population & activity level. All spent rodents will be removed immediately to prevent second hand poisoning to other wildlife. Any and all Corrective Actions having to do with the Rodent Control Program are logged immediately. If rodent activity and or populations are considered low according to the Rodent Index over a consistent time period, the Rodent Control Program is subject to change.
Rodent Trap Indexing Program Hickman's Family Farms has created and designed a Rodent Trap Index Program. Due to the natural landscapes and environment surrounding our facilities, and ranches, it is almost impossible to keep a pest and rodent free environment.		
1-10 = Normal		If counts fall under this category, no actions need to be taken; Hickman's Family Farms follows with normal rodent control program and schedules.
11-21= Secondary		If counts fall under this category, immediate actions are taken. For example: Technician will do a further investigation, any holes discovered will be plugged, all traps will provide rodent attractants, if this is a high rise Lay House, a rodent control program will be implemented in the manure pit, additional Traps and or bait stations are installed, existing baits will be replaced with single feed baits better known as (quick kill bait). The Technician will then complete additional follow up monitoring with added frequency.
22 or Higher= Tertiary		If counts fall under this category, an immediate meeting will be scheduled with upper management, all the above actions will be implemented. The Hickman's Family Farms Pest Control Supervisor will inspect interior and exterior of barns to identify the problem. On the interior of the barns additional traps and/or stations will be placed at approximately 15- 20' apart, on the exterior of the barns all Bait Stations will contain quick kill bait. Additional stations will be added and placed approximately 20' apart, if rodent burrows are detected on the exterior of barns additional rock and gravel may be installed.
0-0 Tolerance= Zero Tolerance		All Egg Processing Facilities and Dry Goods Warehouses are considered for rodent indexing. The interior of our egg

Location	Frequency	Procedure
	processing facilities are inspected and serviced by our Hickman's Pest Control Department technicians on a weekly basis. All exteriors of the Hickman's Family Farms Egg Processing Plants are serviced and inspected by exterminators on a monthly basis.	
Insect Control & Preventions		
All technicians applying insecticides have been properly trained in the handling and disposal of these products by Hickman's Pest Control Supervisor.		
Location	**Frequency**	**Procedure**
Interior of facilities	Monthly	Monitored to eliminate any insect activity, and prevent multiplication.
Exteriors of buildings	Monthly	Monitored and/or sprayed to keep insect activities to minimum levels, and prevent them from penetrating the building and causing any product damage and/or structural damage.
Multiple flying insect bug zappers are installed systematically throughout the interior of the buildings, covering areas such as main entries, loading docs, cooler doors, break areas, and office spaces.		
Multiple fly bait stations are installed systematically threw out the exterior of building, as a preventive measure to keep flies from penetrating the building and causing any damage to our products. Fly bait stations are installed and monitored by a trained Technician. Fly baits, and locations will be determined and approved by the Hickman's Pest Control Supervisor, to prevent any second hand poisoning.		
Weed Control & Preventions		
All technicians applying herbicides have been properly trained in the handling and disposal of these products by the Hickman's Family Farms Pest Control Supervisor. Technician responsible for this particular program decide which method of weed control to use. 1. Mechanical Weed Control 2. Biological Weed Control 3. Chemical Weed Control All herbicides and mixing ratios are determined and approved by the Hickman's Family Farms Pest Control Supervisor.		
Bird Control & Preventions		
If a bird is discovered or detected inside of any plant or facility it is to be reported immediately to the Hickman's Family Farms Pest Control Supervisor.		
Location	**Frequency**	**Procedure**
Outside of the buildings	Bi-Weekly	Inspected for birds' nests. When found they are removed immediately as to prevent accidental intrusion from the birds.

D. Proprietary feed mixtures

Hickman's Family Farms utilizes specialized feed mixtures throughout the facilities to reduce nitrogen excretion via urine, as well as ammonia emissions from manure. This is accomplished based on specialized feed supplements (including, but not limited to: antibiotics, minerals, vitamins, mold inhibitors, proteins, vegetable oils / additives, animal oils / additives, and soy. Many published studies have shown that application of the ideal protein ratio in the diet is a potential method to further reduce nitrogen emissions. Hickman's Family Farms utilizes a certified animal nutritionist, as well as international corporations specializing in animal nutrition. All feed mixtures as well as the ingredients within them are proprietary in nature and therefore are not publicly available.

Sincerely,

Jim Manos
Chief Financial Officer

HICKMAN'S family farms
6515 S. Jackrabbit Trail, Buckeye, AZ 85326

Richard A. Sumner
Permitting Division Manager
Maricopa County Air Quality Department
1001 N. Central Avenue, Suite # 125
Phoenix, Arizona 85004

Re: Request for Additional Information

Mr. Sumner,

As requested, listed below are the dimensions of the Tonopah facility structures. If you have any questions, please feel free to contact me at any time.

Tonopah	Building Dimensions	Square Feet	# of Fans	Fan CFM
House 1	680' x 84'	57,120	48	30,000
House 2	680' x 84'	57,120	48	30,000
House 3	680' x 84'	57,120	48	30,000
House 4	680' x 84'	57,120	48	30,000
House 5	680' x 84'	57,120	48	30,000
House 6	680' x 84'	57,120	48	30,000
House 7	680' x 84'	57,120	48	30,000
House 8	680' x 84'	57,120	48	30,000
House 9	680' x 84'	57,120	48	30,000
Tonopah 10	680' x 84'	57,120	48	30,000
Tonopah 11	680' x 84'	57,120	42	30,000
Tonopah 12	650' x 90'	58,500	42	30,000
Tonopah 13	650' x 90'	58,500	42	30,000
Tonopah 14	650' x 90'	58,500	42	30,000
Pullet L	650' x 92'	59,800	38	30,000

Sincerely,

Robert Phalen
Hickman's Family Farms
Environmental Program Manager
rphalen@hickmanseggs.com
623-872-2341 (Office Phone)
623-300-5630 (Cell Phone)

Maricopa County
Air Quality Department

NON-TITLE V
TECHNICAL SUPPORT DOCUMENT

PERMIT NUMBER:	140062	**App. ID(s):**	410195
BUSINESS NAME:	Hickman's Egg Ranch, Inc.	**Revision(s):**	0.0.1.0
SOURCE TYPE:	Poultry Egg Production	**Revision Type(s):**	Minor modification
PERMIT ENGINEER:	LiSa Kon/Todd Martin	**Date Prepared:**	05/16/2017

BACT: No **MACT:** Yes **NSPS:** Yes **SYNTH MINOR:** No **AIRS:** No

DUST PLAN REQUIRED: No **DUST PLAN RECEIVED:** N/A

O&M PLAN REQUIRED: No **O&M PLAN RECEIVED:** No

PORTABLE SOURCE: No **SITE VISIT: 11/20/2015**

PROCESS DESCRIPTION:

This facility houses chickens for the production of eggs for human consumption. The egg producing and processing establishment is located on an agricultural farm land. Each of the fourteen barns at the site is ventilated by a system of fans. Each barn is equipped with a diesel fuel emergency generator engine. In the event of line power failure, the emergency generator engines will provide power to the fans. Pages 4 and 5 of this document contain pictures of the establishment. Diagram A in page 3 shows the site diagram.

The facility is regulated for fuel combustion emissions from the emergency generator engines and boilers. Fuel combustion emissions consist of carbon monoxide (CO), nitrogen oxides (NOx), sulfur dioxide (SOx), volatile organic compounds (VOC), and particulate matter (PM, including PM_{10}).

PERMIT HISTORY:

Date Received	Revision Number	Description
11/16/2015	1.0.1.0	MCAQD received permit minor modification application. See Purpose for Application.
11/17/2014	0.0.0.0	MCAQD issued new permit.

PURPOSE FOR APPLICATION:

The minor modification is to notify MCAQD that the Permittee will be adding:

1. 8 units of diesel fuel emergency generator engines to the existing 12 units. Each of the new engines is rated at 464 horsepower (h.p.), and certified to meet EPA Certified Tier 3 Emission Compliance. There will be a total of 20 diesel fuel emergency generator engines at the facility. The manufacturer's data sheets on the new engines were included together with the permit minor modification application. The engines will be installed at:
   -G-48 Pullet House L
   -G-49 Pullet House M
   -G-50 Lay House 14
   -G-51 Water Tank #2 Booster Pump
   -G-52 Lay House 12
   -G-53 Lay House 13

2. 2 units of propane gas powered boilers at the egg washing processing plant. Each of the Lochinvar Copper Fin II Model CHL0992 boiler is rated at heat input rating of 990,000 Btu/hr. (note: The modification was revised to include the boilers on 12/3/2015; the original application that was received on 11/16/2015 did not include the boilers).
   There are two aboveground propane tanks on site. The holding capacity of each is 1,000 gallons. Fuel combustion

by-product emissions from the boilers have been revised to reflect the updated fuel type; from natural gas to propane. The propane tanks are exclusively for the storage of liquefied gases in unvented pressure vessels, except for emergency pressure-relief valves. As such, emissions from the tanks are considered insignificant per Rule 100 §200.63 g.(5).

The facility is not eligible to operate under a General Permit for Stationary Emergency Internal Combustion Engines (ICE) because the aggregate power rating of all the stationary ICE on the site exceeded 2,500 h.p. In order to be eligible, the maximum aggregate power rating of all stationary ICE on the site must be 2,500 horsepower or less.

A. APPLICABLE COUNTY REGULATIONS:

Rule 100: General Provisions and Definitions
Rule 200: Permit Requirements
Rule 220: Non-Title V Permit Provisions
Rule 280: Fees: Table C: Emergency Internal Combustion Engines
Rule 300: Visible Emissions
Rule 320: Odor and Gaseous Air Contaminants
Rule 324: Stationary Internal Combustion (IC) Engines

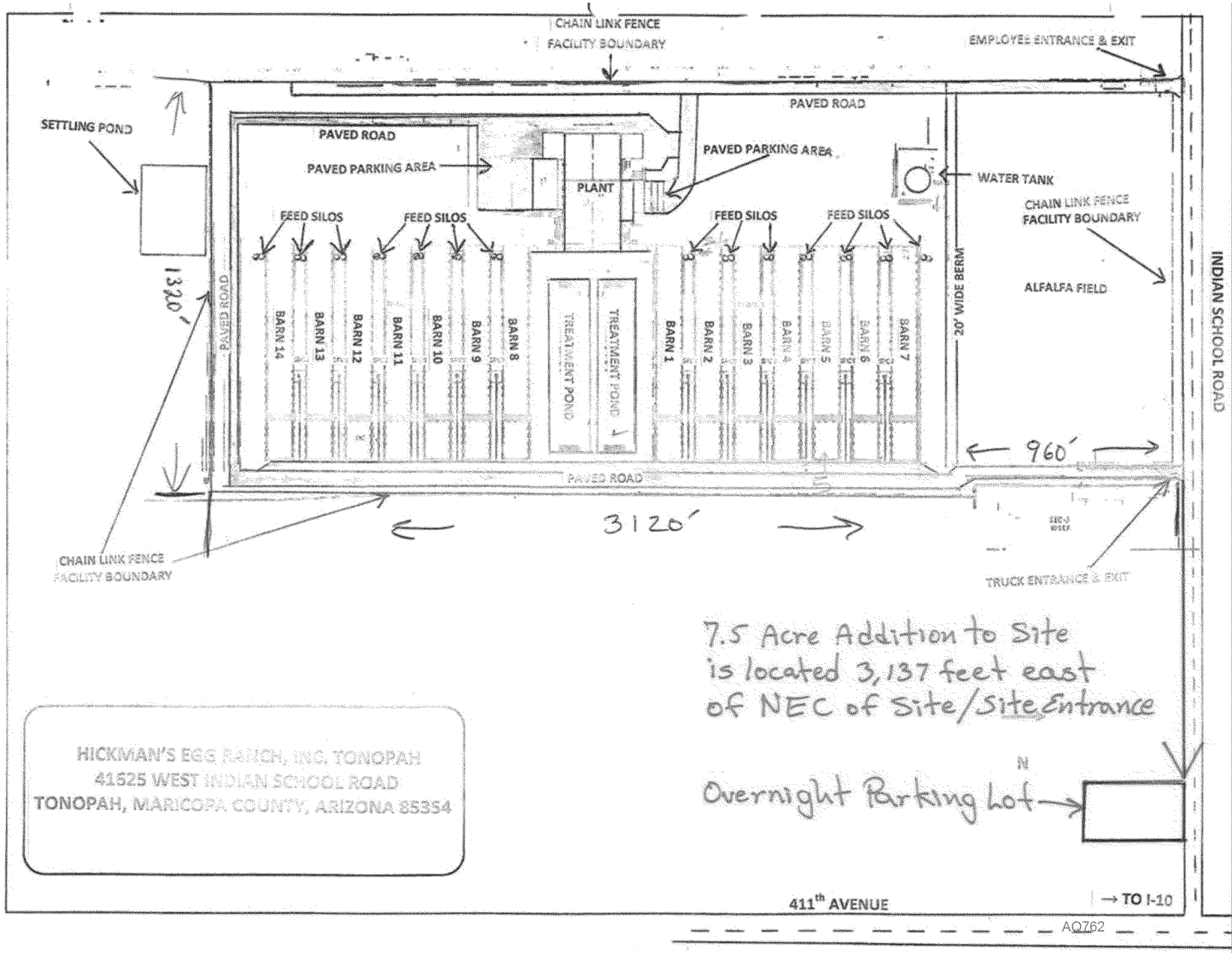
The Permittee is not subject to

- Rule 310 - Fugitive Dust from Dust Generating Operations. Rule 310 Section 103.1 exempts farm cultural practices.
  Per A.R.S. 49-457 the facility is subject to Agricultural Best Management Practices. You can find more information regarding this program at:
- http://www.azdeq.gov/environ/air/plan/download/webguide.pdf

- Rule 323 - Fuel Burning Equipment from Industrial/Commercial/Institutional (ICI) Sources because this rule only applies to unit/s that has a maximum design rated heat input capacity from fuels combusted in the generating unit of greater than 10 million (MM) Btu/hr (2.9 Megawatts (MW)).

There is a 10,000 gallon capacity aboveground diesel storage tank for diesel. The storage tank will be removed upon completion of construction at the facility.
Per MCAQD Rule Appendix D - List Of Insignificant Activities, Storage and Distribution, any emissions unit, operation, or activity that handles or stores no more than 12,000 gallons of a liquid with a vapor pressure less than 1.5 pounds per square inch (psia) is considered insignificant.

Diagram A: Site layout



These pictures were submitted together with the new permit application.

Figure 1: Two of the standby engines at one of the lay houses at the facility.

Silos are located between the barns

Figure 2: Silos are located in between the barns

Figure 3: One of the two treatment ponds. Structure to the left of the pond is Barn #1.

Figure 4: Another view of a barn.

Figure 5: Barn structure.

B. FEDERAL REGULATIONS:

1) The *Kohler*, 1528 h.p. emergency generator engine is subject to 40 CFR Part 63, Subpart ZZZZ. This unit was manufactured in the year, 2004.
Any stationary, emergency reciprocating internal combustion (IC) emergency engines which includes (Diesel fueled) compression ignition (CI) emergency engines and (Propane fueled) spark ignition (SI) emergency engines constructed or reconstructed prior to 2006 will be subjected to 40 CFR Part 63, Subpart ZZZZ —National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating IC Emergency Engines.
If the Permittee modifies or reconstructs the engine stationary compression ignition internal combustion engine after July 11, 2005, that engine shall comply with all applicable requirements of 40 CFR 60 Subpart IIII. [40 CFR §60.4200(a)(3)]

2) The following 19 units of emergency generator engines are subject to NSPS 40 CFR Part 60, Subpart IIII.

Engine Make	Model	No. of units	Model Year	Maximum Power	Emission Standard
Cummins	QSL9-G7-NR3	18	2014	464 HP	Tier 3
Cummins	QSL9-G2-NR3	1	2014	364 HP	Tier 3

3) Non-Applicable Federal Regulations
The chicken feed (grain) storage silos are not subject 40 CFR 60 Subart DD (Standards of Performance for Grain Elevators). Grain storage at the facility does not meet the definition of grain terminal elevator or grain storage elevator provided in 40 CFR 60.301. Grain terminal elevators do not include those located at livestock feedlots.

4) The 2 units of fuel burning (propane) boilers are:
☐ *Not subject* to National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers Area Sources (40 CFR Part 63, Subpart JJJJJJ) per 63.11195. This section itemizes the type of boilers that are not subject to the Area Source Boilers NESHAP. It states: *Gas-fired boiler.* If your boiler burns gaseous fuels (e.g., propane, process gas, landfill gas, coal-derived gas, refinery gas, hydrogen, or biogas) not combined with any solid fuels, or if your unit burns liquid fuel only during periods of gas curtailment, gas supply emergencies, or periodic testing it is a

gas-fired boiler. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year in order to maintain your status as a gas-fired boiler (see §63.11237 Definitions and §63.11195(e)).

- ☐ *Not subject* to the NSPS Subpart Dc. Subpart Dc only applies to commercial, industrial, and small boilers (steam generating units) that commenced construction or were modified after June 9, 1989 and have a rated heat input greater than 10 million Btu/hr (MMBtu/hr) and less than 100 MMBtu/hr.

C. FUGITIVE EMISSIONS AND TITLE V APPLICABILITY

A Major Source under Section 302 of the Clean Air Act (CAA) is defined as:

- ☐ A source that directly emits or has the potential to emit, 100 tpy or more of any air pollutant including any major source of fugitive emissions of any such pollutant. The fugitive emissions of a stationary source shall not be considered in determining whether it is a major stationary source for the purposes of Section 302(j) of the Act, unless the source belongs to a section 302(j) category of the Act.

Egg laying facilities do not belong to a section 302(j) category of the Act. Therefore fugitive emissions are not included in determining whether the facility is subject to Title V permitting and New Source Review.

The EPA defines "fugitive emissions" in the regulations promulgated under title V as " *those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening*" (see title 40 of the Code of Federal Regulations, sections 70.2 and 71.2).

Non-Fugitive Emissions:
Emissions from boilers and engines pass through a stack and are therefore non-fugitive.

Fugitive Emissions:
Manure piles, wastewater surface impoundments ponds and all other activities that take place outdoors and "which could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening" are considered fugitive emissions.

Discussion:
VOC and PM10 emissions are generated within the henhouse from the chickens, manure and manure handling operations. Each hen house has two sections, the area that houses the hens on the west end and the area where manure is collected on the east end. The two sections are separated by an internal wall. The wall has approximately 40 – 50 thermostatically controlled fans that move up to 30,000 cubic feet per minute from each fan. The fans serve two primary functions:

1. They induce air flow in the hen section for purposes of ventilating and cooling the hens.
2. They aid in manure drying and pest management in the manure area.


Figure 6: Manure collection area showing internal wall and bank of fans.

The purpose of this discussion is to determine whether emissions from the henhouse are considered "fugitive" or "non-fugitive," and if non-fugitive, whether emissions exceed either 100 tons/year, the trigger for Title V operating permit status, or a major preconstruction review threshold under MCAQD Rule 240.

An EPA Memo dated 2/10/99 titled "Interpretation of the Definition of Fugitive Emissions in Parts 70 and 71" provides guidance in the determination of whether emissions should be considered fugitive. MCAQD will address the question in light of this guidance, which is attached below (sometimes referred to as the "Curran Memo").

Item #1: According to the memo (and earlier guidance released in 1987 and again in 1994), EPA states "*emissions which are actually collected are not fugitive emissions*".

At Hickman Family Farms, the fans exhaust into the area where manure is collected. Emissions are not currently collected.

EPA goes on to say:

> *Where emissions are not actually collected at a particular site, the question of whether the emissions are fugitive or non-fugitive should be based on a factual, case-by-case determination made by the permitting authority.*

Item #2: EPA also believes that "*manufacturers subject to national standards and State implementation plan (SIP) requirements (e.g., reasonably achievable control technology, best available control technology, or lowest achievable emissions rate) requiring collection* " should be considered "non -fugitive" since collection is required by the standard.

There are no national, state or county standards that apply to emissions from henhouses.
The EPA RACT/BACT/LAER Clearinghouse contains no RACT/BACT/LAER entries for: henhouse, hen or egg.

https://cfpub.epa.gov/rblc/index.cfm?action=Search.BasicSearch

Item #3: According to the memo "*reasonableness should be construed broadly. The existence of collection technology in use by other sources in a source category creates a presumption that collection is reasonable. Furthermore, in certain circumstances, the collection of emissions from a specific pollutant emitting activity can create a presumption that collection is reasonable for a similar pollutant-emitting activity, even if that activity is located within a different source category.*"

Does collection technology exist at other egg laying facilities around the country? MCAQD is not aware of any other laying operation at which the emissions are actually captured. It should be noted that many of facilities around the country include fans located on the external walls of buildings, such that the air pollutants are passing through the fans.

Is there a "similar pollutant -emitting activity" at a "different source category " in which emissions are collected? In response to this question, EPA Region 9 supplied the attached letter dated April 16, 1996 from EPA Region 5 to Paul Dubenetzky of the Indiana Department of Environmental Management (IDEM) regarding a Seagram whiskey storage facility. The Seagram operation consists of ten double warehouses (each of approximately 85,630 sq. ft. in area). The facility stores beverages in barrels and is a source of ethanol emissions which are released into the atmosphere through screen-covered vents along the bottom of the warehouse walls.

With regards to this facility EPA Region 5 concluded:

> *The facility relies on natural ventilation and does not use fans to force air in and out of the warehouse. It is the position of the United States Environmental Protection Agency (USEPA) , based on the information you provided, that these screens should be considered "other functionally-equivalent openings" under the above-mentioned definition and, therefore, the emissions exiting the storage area would not be classified as fugitive emissions for Title V purposes.*

Although EPA and IDEM determined warehouse emissions to be non-fugitive, Seagram challenged the decision and the case went before the Indiana Office of Environmental Adjudication. The court overturned IDEM's and EPA's finding stating:

> *This Court concludes that whether the emissions can be reasonably collected is essential to the determination of whether the emissions are fugitive. This Court finds and concludes that the IDEM's interpretation is inconsistent with the regulation and with U.S. EPA's national policy.*

http://www.state.in.us/oea/decisions/2004oea58.htm

Although the court ruled against EPA in this matter and determined VOC emissions to be fugitive, it is worth examining the similarities and differences of the Hickman's henhouses to the Seagram warehouses to determine whether collection of emissions is "reasonable."

Similarities:

- Each emission source can roughly be construed as a warehouse with multiple buildings.
- Each has openings from which emissions are released to the atmosphere.

Differences:

- Seagram relies on natural ventilation and does not use fans to force air in and out of the warehouse.
- The henhouses at Hickman Family Farms are ventilated using 40 – 50 thermostatically controlled fans per henhouse. According to the source, the fans result in a total combined air flow of more than 1.5 million cubic feet per minute per henhouse.

In addition to the fact that the court has ruled that emissions from the Seagram warehouse are fugitive, the emissions from the Hickman Family Farm henhouses differ in one key respect, the volume of air that would have to be collected and treated is exponentially greater. Because the volume is greater, equipment serving

to collect and treat henhouse emissions would need to be sized to accommodate these considerably higher air flows.

Item #4: In cases such as that described above where the agency is evaluating a "similar pollutant-emitting activity", the Curran memo provides further guidance as to the evaluation of "reasonableness":

> "*When a source does not actually collect its emissions, but there is a presumption that collection would be reasonable, a permitting authority could consider costs in determining whether this presumption is correct. However, when analyzing whether collection is reasonable for a particular source, the permitting authority should not focus solely on cost factors, nor should cost factors be given any more weight than other factors.*"

Although collection of emissions from the henhouses are not presumed to be reasonable per the Indiana court's ruling in the Seagram case, Hickman Family Farms was asked about the feasibility of collecting particulate emissions and responded as follows:

> *"A preliminary analysis of such a system shows the hood system would require exhaust fans sized for an air flow of more than 1.5 million cubic feet per minute; even without an air pollution control device, the fan would require an electric motor of approximately 1500 hp output. A fabric filter baghouse to control emissions of particulate matter, assuming a gas- to-cloth ratio of 9 ft/min, would increase the pressure drop to approximately 10 inches of water and would require an increase in the fan motor size to more than 3000 hp. The baghouse would contain approximately 13,000 fabric filter bags; total cloth area would be more than 170,000 square feet; and the baghouse structure would be approximately 50 feet wide by 200 feet long and 25 feet high. The total capital cost of such a system, for each building, would be at least $13 million. As stated by the EPA, "we believe that when the o nly reason to collect or capture such emissions would be to control the emissions, and there is no technical or economically feasible means to control the emissions, then collecting the emissions is nonsensical, and thus, may not be reasonable." (72 Fed. Re. 63259, Nov. 13, 2007; 73 Fed. Reg. 77892, Dec. 18, 2008). In this case, the collection of such emissions would not be economically feasible."*

A similar analysis could be performed for the capture and control of VOC emissions from the henhouses . As a very rough estimate we can refer to the EPA Air Pollution Control Cost Manual (2002), which includes the following figure:

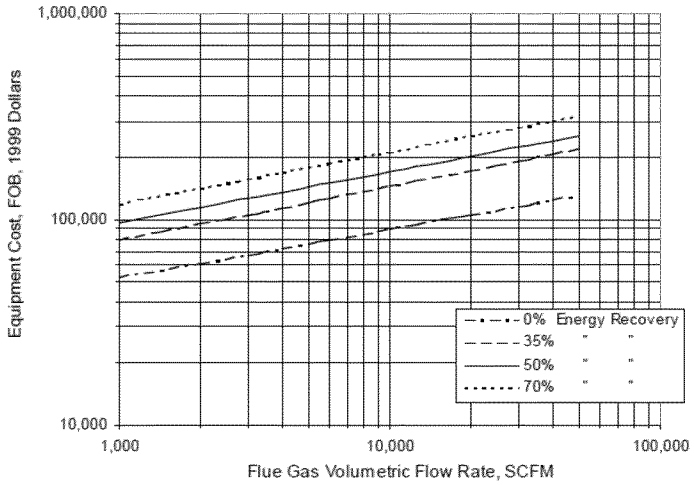


Figure 2.4: Equipment Costs of Thermal Incinerators, Recuperative

The capital cost of a recuperative thermal oxidizer (the least expensive of the VOC controls listed in the manual) is approximately $110,000 per 50,000 scfm of air treated. Thus the Hickman Family Farms facility would require 30 oxidizers in order to treat 1.5 million scfm of air. The equipment cost would therefore be $3.3 million in 1998 dollars per henhouse.

Table 2.10 of the Cost Manual estimates annual operating costs at roughly $422,000 per unit for an annual total operating cost of $12.66 million per year.

Although this is a rough back-of-the- envelope cost estimate, it's clear that costs are quite high. It is the determination of MCAQD that such an expense is not economically feasible and that the reasonableness standard has not been met given the exponentially higher volumes of air that must be treated at the Hickman Family Farms site than would be necessary at the Seagram facility.

Add to this the fact that the VOC inlet concentration to such an oxidizer would be extremely low, resulting in low abatement efficiencies, and the fact that 30 thermal oxidizers would produce emissions themselves in the form of combustion byproducts. Given the emissions from fuel combustion it is unclear whether there would be any emissions benefit from their use.

Although the Indiana court ruled that ethanol emissions from the Seagram warehouse were fugitive, MCAQD considered costs to determine whether collection is reasonable in light of the much higher flow rates and air volume produced by the henhouses. For both particulates and VOCs, costs were found to be prohibitively high.

Conclusion: Fugitive emissions are "*those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening*". EPA has stated "*we interpret the phrase 'could not reasonably pass' by determining whether such emissions can be reasonably collected or captured (e.g. enclosures or hoods). Under this interpretation, it is axiomatic that any emissions actually collected or captured by the source are non-fugitive emissions. The answer is less clear when the source is not currently collecting or capturing the emissions. In these circumstances we make case-by-case determinations as to whether a source could reasonably collect or capture such emissions*". (72 Fed. Reg. 63258, Nov. 13, 2007; 73 Fed. Reg. 77891, Dec. 19, 2008).

Based on this EPA criteria and that outlined in the Interpretation of the Definition of Fugitive Emissions in Parts 70 and 71 memo, MCAQD finds that:

- Emissions are not already collected.
- Emissions are not collected by other sources in the source category.
- Henhouses are not subject to federal, state or local rules requiring collection of emissions.
- Henhouses are not subject to federal, state or countyRACT, BACT or LAER requirements that require collection.
- A case of a similar pollutant emitting facility was considered (a whiskey warehouse).
- An Indiana court found VOC emissions from the whiskey warehouse to be fugitive. Due to the high volume of air that is discharged through fans at the henhouses, collection and control of emissions would be considerably more challenging. A cost analysis concluded that collection and control costs would be in the tens of millions of dollars.

MCAQD therefore concludes that the standard of 'reasonableness' has not been met. All of the emissions from the henhouses are fugitive and would therefore not be included in a determination as to whether Title V thresholds have been triggered.

MCAQD calculated the potential to emit for all non-fugitive air pollutant emissions. The total combined non-fugitive emissions were below the major source thresholds for all air pollutants. MCAQD has therefore concluded that, in accordance with MCAQD Rule 100 §200.65.c and Clean Air Act (CAA) Section 302, the facility does not trigger major source permitting requirements.

Future Developments: The National Air Emissions Monitoring Study (NAEMS) was a result of an EPA compliance agreement announced on January 31, 2005 to address emissions from certain animal feeding operations, also known as AFOs. The agreements provided for a monitoring program for barns and other buildings that house animals and lagoons or other structures that store or treat manure and other wastes.

EPA stated in the Federal Register Notice available at:
http://www3.epa.gov/airquality/agmonitoring/pdfs/afolagooneemreport2012draftappe.pdf#_ga=1.22794168.2087244103.1424728829

> *H2S, PM, and VOC are all regulated under the CAA and subject to various requirements under that statute and the implementing Federal and State rules and regulations. Emissions of these pollutants come from many different areas at AFOs, including animal housing structures (e.g., barns, covered feed lots) and manure storage areas (e.g., lagoons, covered manure piles). An important issue that arises under the CAA is whether emissions from different areas at AFOs should be treated as fugitive or nonfugitive.* ***The Agency plans to issue regulations and/ or guidance on this issue after the conclusion of the monitoring study.***

U.S. EPA has completed the monitoring study, but has not published any accepted emission factors, regulations or guidance to be used to determine permitting requirements for the units covered under the agreement.

Also, on November 2, 2015 the U.S. Supreme Court refused to review a decision from the U.S. Court of Appeals for the D.C Circuit dismissing a lawsuit to force EPA to regulate emissions from animal feeding operations (AFOs). The Iowa-based plaintiffs had demanded that EPA regulate ammonia and hydrogen sulfide emissions as criteria pollutants, and AFOs as a source category under the New Source Performance Standards program. They argued that, even without a formal endangerment finding from EPA, the prevalence of scientific evidence that ammonia, hydrogen sulfide and other AFO emissions endanger public health should trigger regulation under the Clean Air Act (CAA). The D.C. Circuit rejected that argument and affirmed that EPA retains the discretion to review the science and make its own endangerment findings. The Supreme Court's refusal to review the case, captioned Zook v. EPA (No. 15-350), 11 leaves the D.C. Circuit dismissal intact.

Although the court affirmed EPA's authority to make its own endangerment findings and regulate AFOs as a source category under the NSPS program, EPA has not done so.

The decision as to whether to promulgate regulation for air emissions from AFOs or to regulate them as a source category remains with EPA per both the NAEMS and the Supreme Court decision While no action has been taken by EPA in this regard, MCAQD will follow rules or regulations issued by EPA should they occur in the future.

Related Documents:

Fugitive Emissions Memo.pdf Seagrams Letter.pdf

D. AIR POLLUTION CONTROL EQUIPMENT/EMISSION CONTROL SYSTEM(s):

The facility is not required to maintain a dust control plan; exempt from Rule 310.
Rule 310-Fugitive Dust from Dust Generating Operations, Section 103.1 exempts farm cultural practices. For good neighbor practice, the Permittee did submit a Rule 310 DCP for the overnight parking lot at the facility.

E. EMISSIONS:

1) Emergency Engines
Emissions calculation is based on each engine operating at no more than 500 hours per any twelve consecutive month period. On the permit application, the Permittee stated that each engine operates no more than 52 hours per year; the operating hours are strictly for weekly testing.

2) Propane Boilers

Emissions from the propane fuel burning equipment are based on the equipment being operated at 24 hours per day and 365 days per year.

See Table D-1 for the list of emission calculation worksheets and sources of emission factors. The following calculation worksheets are in Appendix A of this document.

Table D-1

Worksheet	Sources of Emissions Description	Sources of Emission factors
1	1 unit: 1,528 h.p engine	Uncontrolled emission factors for the diesel engines > 600 HP are from U.S. EPA AP-42, Table 3.4-1.
2	19 units of Tier 3 engines - 1 @ 364 h.p. & the remaining 18 units @ 464 h.p. per unit.	Uncontrolled emission factors for NOx, CO & PM are from Table 1 40 CFR 60 Subpart IIII.
		Uncontrolled emission factors for SOx and VOC are from US EPA AP-42, Table 3.3-1 for SOx & VOC .
3	2 units of propane fueled boilers	Emission factors (AP-42 Chapter 1.5-1 represents LPG combustion emission factors on a volume basis (lb/1000 gal).
		To convert to an energy basis (lbs/MMBtu), divide by a heating value of 91.5 MMBtu/1000 gal for propane.

140062_Rev 0.0.1.0
calc sheet .xls

The table below shows the facility wide allowable emissions.

Pollutants	1528 h.p. engine	NSPS engines	Propane boilers	**Allowable Facility wide Emissions**	BACT threshold
	lbs/yr	lbs/yr	lbs/yr	**lbs/yr**	lbs/yr
	Wrksht 1	Wrksht 2	Wrksht 3		
CO:	4,202	24,980	1,422	**30,604**	200,000
NOx:	18,336	28,823	2,464	**49,623**	50,000
SOx:	310	8,934	3	**9,247**	50,000
PM10	535	1,442	133	**2,110**	30,000
PM:	535	1,442	133	**2,110**	50,000
VOC:	539	10,765	190	**11,494**	50,000

F. HAP EMISSION IMPACTS:

Based on the information provided in the permit application, the facility emits insignificant amount of HAPs; therefore, SCREEN modeling was not performed per the Department's HAPs policy.

G. PERFORMANCE TESTING:

There is no emission control system at the facility that requires performance testing.

H. COMMENTS:

Supporting activities associated with egg production includes egg washing, packaging, and cooking, washing, package and storage.

Hickman's uses two types of chemicals in their egg washing regimen. The following two chemicals are:

- Zep FS Chlorinated Defoaming Eggwash for washing eggs, and
- Zep FS Formula 4665 is used to disinfect eggs after washing.


ZEP 4665.pdf


Zep FS chrlorinated deform .pdf

Hickman's uses the following chemical to clean egg washers that needs to be cleaned and washed to remove all heavy minerals.


egg washer cleaner xt_2002.pdf

None of the chemicals contains VOCs and/or HAPs.

06/10/2016: MCAQD Permitting Manager approved the Response to Comments for the Hickman's (Tonopah) Permit #140062 from the hearing to be distributed to the commenters.


140062 Response to Comments.docx

APPENDIX A

Worksheet 1

Uncontrolled Large Diesel Industrial Engines (Emergency Generators > 600 HP)							
Input rating of equipment, HP							
Emissions factors taken from AP-42, Table 3.4-1							
Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines							
Equipment	HP Rating	Annual Operating Hours					
Kohler	1,528	500					
TOTAL HP	1,528	500					
Emission factors for diesel:				Constants:			
CO:	0.00550	lb/hp-hr		Heating Value =	137,000	BTU/gallon of diesel fuel	
NOx:	0.02400	lb/hp-hr		500	hours to determine Exempt Status		
SOx[1]:	0.00040	lb/hp-hr		1 hp =	2545	BTU/hr	
PM10:	0.00070	lb/hp-hr		1 hp =	0.746	kW	
PM:	0.00070	lb/hp-hr		1 kW =	1.34	hp	
VOC:	0.00071	lb/hp-hr					
Emissions:							
	***Daily Emissions**				**Yearly Emissions**		
CO:		**lbs**			**4202**	**lbs**	
NOx:		**lbs**			**18336**	**lbs**	
SOX:		**lbs**			**310**	**lbs**	
PM10		**lbs**			**535**	**lbs**	
PM:		**lbs**			**535**	**lbs**	
VOC:		**lbs**			**539**	**lbs**	

Worksheet 2

Uncontrolled Emissions from NSPS Engines

Equipment	HP Rating	Annual Operating Hours	Comments:
	364	500	1 unit, rated at 364
	8,352	500	18 units, each rated at 464 h.p.
TOTAL HP	8,716	1,000	

1 lb=	453.6	g	
Per EPA CFR 40 Tier 3 emission data			
	g/hp-hr	lbs/hp-hr	lbs/hp-hr
CO	2.6	0.00573	5.73E-03
NOx + HC	3	0.00661	6.61E-03
PM	0.15	0.00033	3.31E-04

Emission factors for diesel:

			Sources of Emission Factors	
CO:	5.73E-03	lb/hp-hr	Per EPA CFR 40 Tier 3 emission data	
NOx:	6.61E-03	lb/hp-hr	Per EPA CFR 40 Tier 3 emission data	
SOx:	2.05E-03	lb/hp-hr	Emissions factors taken from AP-42, Table 3.3-1	
assumption: PM=PM 10	3.31E-04	lb/hp-hr	Per EPA CFR 40 Tier 3 emission data	(assumption: PM =PM10)
VOC:	2.47E-03	lb/hp-hr	Emissions factors taken from AP-42, Table 3.3-1	

Emissions:

	*Daily Emissions		Yearly Emissions	
CO:		**lbs**	**24980**	**lbs**
NOx:		**lbs**	**28823**	**lbs**
SOX^2:		**lbs**	**8934**	**lbs**
PM_{10}		**lbs**	**1442**	**lbs**
VOC:		**lbs**	**10765**	**lbs**

Worksheet 3

Propane Fuel Burning Equipment Calculation Worksheet (Small Boiler < 100 MMBtu/hr)

Input rating of equipment, Btu/hr

1)	990,000	Btu/hr			
2)	990,000	Btu/hr			
Totals	1,980,000	Btu/hr=	1.980	MMBtu/hr	

Emission factors (AP-42 Chapter 1.5-1 represents LPG combustion emission factors on a volume basis (lb/1(

To convert to an energy basis (lbs/MMBtu), divide by a heating value of 91.5 MMBtu/1000 gal for propane.

			lbs/MMBTU		
CO:	7.5	lb/1000 gal	0.0820	Constants	
NOx:	13	lb/1000 gal	0.1421	0.001	ft3/Btu for Natural Gas
SOx	0.018	lb/1000 gal	0.0002	24	hr/day
PM10:	0.7	lb/1000 gal	0.0077	365	day/yr
VOC:	1	lb/1000 gal	0.0109	91.5	MMBtu/1000 gal

Emissions

	Daily Emissions [a]		Annual Emissions [b]	
CO:	**3.90**	**lbs/day**	**1,422**	**lbs/yr**
NOx:	**6.75**	**lbs/day**	**2,464**	**lbs/yr**
SOx	**0.01**	**lbs/day**	**3**	**lbs/yr**
PM10:	**0.36**	**lbs/day**	**133**	**lbs/yr**
VOC:	**0.52**	**lbs/day**	**190**	**lbs/yr**

NOTES:

[a] Based on 24 hours per day for each piece of equipment.

[b] Based on 24 hours a day, 365 days a year.

Maricopa County
Air Quality Department

NON-TITLE V
COMPLETENESS DETERMINATION CHECKLIST

Items 1-15 Front page: Items 1 to 15 (14 for Renewals) must be completed.
Notes to engineer:

- *For renewal applications the source must either answer 'No' to questions 2-5 or submit an application for a permit modification.*
- *Item 8: Many applicants do not know the SIC code or NAICS code for their industry. For a new application the code can be obtained by doing an on-line search. http://www.osha.gov/pls/imis/sicsearch.html*
- *Items 5, 7 and 14: These may be the same for many applicants.*

Complete: [x] Incomplete: [ ]

Item 16: A simple site diagram has been included , preferably on a standard size paper. Detailed blueprints or construction drawings are not required.

Complete: [x] Incomplete: [ ] N/A: [ ]

Item 17: A simple process flow diagram on a standard size paper is preferred. A process flow diagram may not be needed for some small businesses.

Complete: [ ] Incomplete: [ ] N/A: [x]

Item 18: An O&M plan is required only for a control device. An O&M plan is not required for a spray booth. Inste of including the O&M plan with the application, an applicant may submit it after receiving the permit.

Complete: [ ] Incomplete: [ ] N/A: [x]

Item 19: A dust control plan, if required, must accompany the permit application. The plan will be reviewed and approved by the dust compliance group.

Complete: [ ] Incomplete: [ ] N/A: [x]

Item 20: The applicant needs to complete only those sections of the permit application that are applicable.

Complete: [x] Incomplete: [ ] N/A: [ ]

Notes to engineer:

- *Concerning Section Z: Many applicants will not be able to perform these engineering calculations. We will accept the permit application with a blank Section Z.*

Instructions for completing Sections A, B, C, D, E-1, E-2, F, G, H, I, J, K-1, K-2, K-3, K-4, L, M, X-1, X-2, Y and Z of the permit application are included at the beginning of each section and are self-explanatory.

In general, a material safety data sheet (MSDS) is required for each chemical used, stored or processed at the facility. Exceptions are for very common materials, such as gasoline, diesel, acetone, etc.

Business name: **Hickman's Egg Ranch Inc.**

Permit number: **140062 Rev 0.0.1.0**

Completeness review completed.
Application determined to be: Complete: [y] Incomplete: [ ]

Permit Engineer: **LiSa Kon/Todd Martin** Date: **02/17/2016**
TSD revised 5/16/2017